5-3895-372-20

TM 5-3895-372-20

TECHNICAL MANUAL

ORGANIZATIONAL MAINTENANCE MANUAL

CONCRETE-MOBILE® MIXER BODY
M919, MODEL 8CM-24/F
NSN 3895-01-028-4391

HEADQUARTERS, DEPARTMENT OF THE ARMY

AUGUST 1980

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DAFFIN MOBILE PRODUCTS DIVISION OF BARBER GREENE COMPANY

(MANUAL PREPARED BY AM GENERAL CORPORATION)

DAAE07-77-C-4211

WARNING AND FIRST AID DATA

WARNING

WET CEMENT AND CONCRETE CAN CAUSE BURNS.

WARNING

CARBON MONOXIDE POISONING CAN BE DEADLY.

Carbon monoxide is a colorless, odorless, poisonous gas, which, when breathed, deprives the body of oxygen and causes suffocation. Exposure to air contaminated with carbon monoxide produces symtoms of headache, dizziness, loss of muscular control, apparent drowsiness, or coma. Permanent brain damage or death can result from severe exposure.

Carbon monoxide occurs in the exhaust fumes of fuel-burning internal combustion engines and can become dangerous under conditions of inadequate ventilation. The following precautions must be observed to insure the safety of personnel:

DO NOT operate the engine of a vehicle in an enclosed area unless it is ADEQUATELY VENTILATED.

DO NOT idle the engine for long periods without maintaining ADEQUATE VENTILATION in the personnel compartments and immediate area.

DO NOT operate any vehicle with inspection plates, cover plates, or engine compartment doors removed unless it is necessary for maintenance purposes.

BE ALERT at all times during vehicle operation for exhaust odors, and exposure symtoms. If either are present, IMMEDIATELY VENTILATE the area. If symptoms persist, remove affected personnel from the area and treat as follows:

Expose to fresh air.

Keep warm.

DO NOT PERMIT EXERCISE.

If necessary, administer artificial respiration.

THE BEST DEFENSE AGAINST CARBON MONOXIDE POISONING IS ADEQUATE VENTILATION.

WARNING

EXHAUST SYSTEM COMPONENTS CAN CAUSE SEVERE BURNS

During normal operation the exhaust pipe and muffler can become very hot. Be careful not to touch these components with your bare hands. Do not allow your body to come in contact with the pipe or muffler. Exhaust system components may be hot enough to cause serious burns.

WARNING

AVOID CONTACT WITH WET CONCRETE

Prolonged contact with wet concrete can cause skin irritation or burns. Skin areas that have been exposed either directly or through saturated clothing should be thoroughly washed with water. If any concrete material gets into the eye, flush immediately with water and GET PROMPT MEDICAL ATTENTION.

WARNING

CEMENT DUST CAN BE HARMFUL

During loading operations or at any time there is cement dust in the air take precautions to avoid direct inhalation of the dust. If you must be in the immediate vicinity of the dust, wear a dust mask or if none are available, cover your nose and mouth with a cloth. CEMENT DUST CAN CAUSE SERIOUS LUNG PROBLEMS.

WARNING

MOVING MACHINERY IS DANGEROUS

When working in the area of the belt drives on the main conveyor, the chain drives for the cement and dry admix bins, or the mixing trough auger be extremely careful to avoid contact or catching clothing in moving parts. Serious injury or loss of life can result from entanglement in moving machinery.

WARNING

Compressed air used for cleaning purposes will not exceed 30 PSI. Use only with effective chip guarding and personal protective equipment (goggles/shield, gloves, etc.).

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HEADQUARTERS
DEPARTMENT OF THE ARMY
Washington, DC, 15 August 1980

ORGANIZATIONAL MAINTENANCE MANUAL

M919 CONCRETE-MOBILE® MIXER BODY
MODEL 8CM-24/F
NSN 3895-01-028-4391

> **REPORTING OF ERRORS**
>
> You can help improve this manual. If you find any mistakes or know of a way to improve the procedures, please let us know. Mail your letter, DA Form 2028 (Recommended Changes to Publications and Blank Forms), or DA Form 2028-2 located in the back of this manual direct to: Commander, US Army Tank Automotive Materiel Readiness Command, ATTN: DRSTA-MBS, Warren, MI 48090. A reply will be furnished direct to you.

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HOW TO USE THIS MANUAL

This manual contains the following information to help you understand how the Concrete-Mobile® mixer body works, how to service it, and how to make authorized repairs.

WHAT THIS MANUAL CONTAINS.

This manual is divided into chapters which provide the following information:

CHAPTER 1 INTRODUCTION.

This chapter contains general information about the Concrete-Mobile® mixer body. It also tells you where to find maintenance forms.

CHAPTER 2 PRINCIPLES OF OPERATION.

This chapter contains information on how the vehicle works. It is divided into sections by function: Power train, water system, etc. (see Table of Contents for complete listing).

CHAPTER 3 INTEGRATED MAINTENANCE.

This chapter includes information that applies to all the maintenance chapters that follow (chapters 4 thru 14). It tells:

a. When to inspect, test, and service the vehicle. Preventive Maintenance Checks and Services.)

b. Where to find the troubleshooting procedures for a specific problem. (Troubleshooting Symptom Index.)

CHAPTER 4 THRU 14 INDIVIDUAL MAINTENANCE CHAPTERS.

These chapters give you the following information:

a. How to find out what's causing a problem (Troubleshooting Procedures).

b. A list of authorized maintenance procedures (Maintenance Task Summaries).

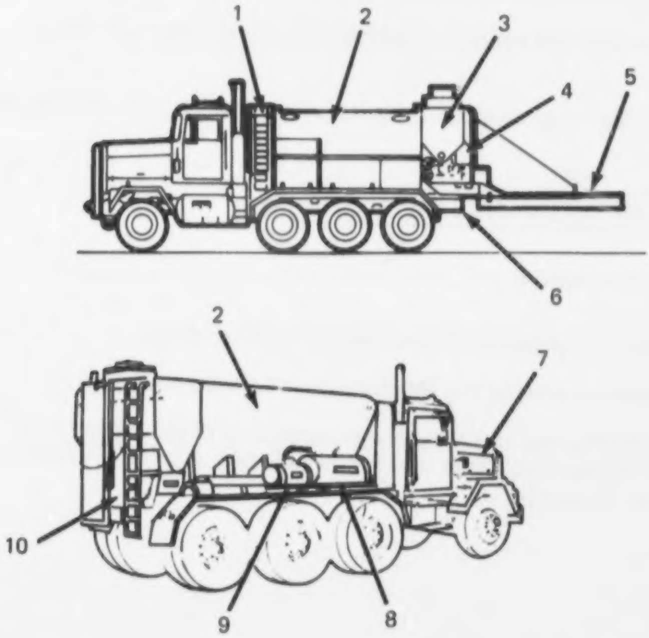
c. Detailed procedures for replacing and servicing component parts (Task Procedures). Procedures include a list of special tools that you'll need (if any), materials required and references to other manuals, if needed.

REPORTING EQUIPMENT IMPROVEMENT RECOMMENDATIONS (EIR'S).

EIR's can and must be submitted by anyone who is aware of an unsatisfactory condition with the equipment design or use. It is not necessary to show a new design or list a better way to perform a procedure, just simply tell why the design is unfavorable or why a procedure is difficult. See TM 38-750. Mail EIR's directly to Commander, U.S. Army Tank Automotive Material Readiness Command, ATTN: DRSTA-MTC, Warren, Michigan, 48090. A reply will be furnished to you.

EQUIPMENT IMPROVEMENT REPORT AND MAINTENANCE DIGEST (EIR MD) AND EQUIPMENT IMPROVEMENT REPORT AND MAINTENANCE SUMMARY (EIR MS).

Maintenance Digest, TB 43-0001-39 series, contains valuable field information on the equipment covered in this manual. The information in the TB 43-0001-39 series is compiled from some of the Equipment Improvement Reports that you prepared on the vehicles covered in this manual. Many of these articles result from comments, suggestions, and improvement recommendations that you submitted to the EIR program. The TB 43-0001-39 series contains information on equipment improvements, minor alterations, proposed Modification Work Orders (MWO's), warranties (if applicable), actions taken on some of your DA Form 2028's (Recommended Changes to Publications), and advance information on proposed changes that may affect this manual. In addition, the more maintenance significant articles, including minor alterations, field-fixes, etc., that have a more permanent and continuing need in the field are republished in the Equipment Improvement Report and Maintenance Summary (EIR MS) for TARCOM Equipment (TM 43-0143). Refer to both of these publications (TB 43-0001-39 series and TM 43-0143) periodically, especially the TB 43-0001-39 series, for the most current and authoritative information on your equipment. The information will help you in doing your job better and will help in keeping you advised of the latest changes to this manual. Also refer to DA Pam 310-4, Index of Technical Publications, and Appendix A, 'References', of this manual.



LEGEND:

1. WATER TANK
2. SAND AND STONE BINS
3. CEMENT BIN
4. ELECTRIC WINCH
5. MIXING TROUGH
6. CONTROL AREA
7. M919 TRUCK CHASSIS
8. HI-FLOW LIQUID ADMIX TANK
9. LOW-FLOW LIQUID ADMIX TANK
10. DRY ADMIX BIN

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Major Components of the Concrete-Mobile® Mixer Body.

CHAPTER 1

INTRODUCTION

1-1. OVERVIEW.

This chapter provides you with the following information:

- *a.* Forms and record data required for maintenance.
- *b.* Features and specifications of Concrete-Mobile® mixer body.

Section I GENERAL INFORMATION

1-2. SCOPE.

Type of Manual: Organizational Maintenance.

Model Number and Equipment Name: M919 -- Concrete-Mobile® Mixer Body.

Purpose of Equipment: Mixes and delivers concrete at a maximum rate of 40 cu ft per minute.

1-3. MAINTENANCE FORMS, RECORDS, AND REPORTS.

Department of the Army forms and procedures used for equipment maintenance will be those prescribed by TM 38-750, The Army Maintenance Management System.

1-4. DESTRUCTION OF ARMY MATERIEL TO PREVENT ENEMY USE.

Requirements and procedures for destruction of army materiel to prevent enemy use are given in TM 750-244-6.

1-5. ADMINISTRATIVE STORAGE.

Storage information is given in TM 740-90-1, Administrative Storage.

Section II EQUIPMENT DESCRIPTION AND DATA

1-6. PURPOSE, CAPABILITIES, AND FEATURES.

The Concrete-Mobile® mixer body carries water, admixtures, dry aggregates, and cement. It mixes these to make concrete fresh at the jobsite.

1-6. PURPOSE, CAPABILITIES, AND FEATURES (Continued).

Features important for maintenance are:

a. Cement stays dry until it enters the mixing trough. There should be no wet concrete inside the mixer body.

b. Moving parts are guarded by metal shields. These shields can be removed for maintenance work.

c. Draincocks are provided for venting air pressure and draining water from Concrete Mobile systems.

d. Plastic caps on lube points keep cement dust out of fittings.

e. Concrete-Mobile® mixer body is calibrated at the factory. You can easily check calibration if there is doubt about yields (refer to TM 5-3895-372-10).

CHAPTER 2

PRINCIPLES OF OPERATION

2-1. OVERVIEW.

This chapter explains the functioning of mixer body components you will be maintaining at the Organizational level, and shows how they relate to each other. The explanation is broken down into the following sections:

a. Concrete-Mobile® Mixer Body (paras 2-2 and 2-3).
b. Power Train (paras 2-4 and 2-5).
c. Water System (paras 2-6 and 2-7).
d. Admix Systems (paras 2-8, 2-9 and 2-10).
e. Aggregate Supply System (paras 2-11 and 2-12).
f. Cement System (paras 2-13 and 2-14).
g. Mixer-Auger System (paras 2-15 and 2-16).
h. Hydraulic System (paras 2-17 and 2-18).
i. Air System (paras 2-19 and 2-20).
j. Electric Winch (paras 2-21 and 2-22).
k. Lamps (paras 2-23 and 2-24).

You can find other basic information about the Concrete-Mobile® Mixer Body in:

a. Appendix D (Schematic Diagrams).
b. TM 5-3895-372-10 (Operator's Manual for the M919 Concrete-Mobile® Mixer Body).

Section I CONCRETE-MOBILE® MIXER BODY

2-2. INTRODUCTION.

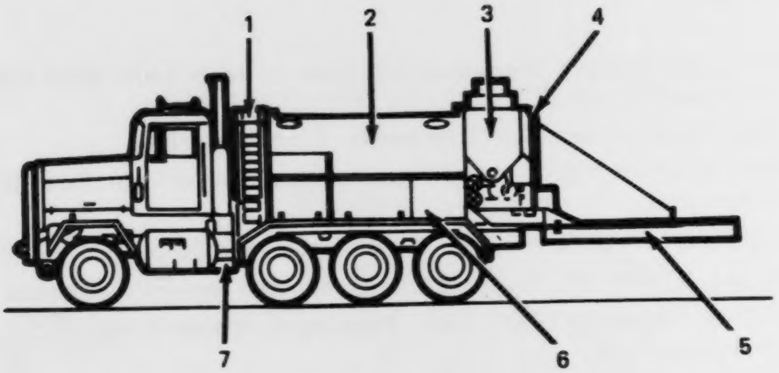
This section identifies the major systems of the Concrete-Mobile® Mixer Body (hereafter referred to as the mixer body). It explains the function of each system and how the systems relate to each other.

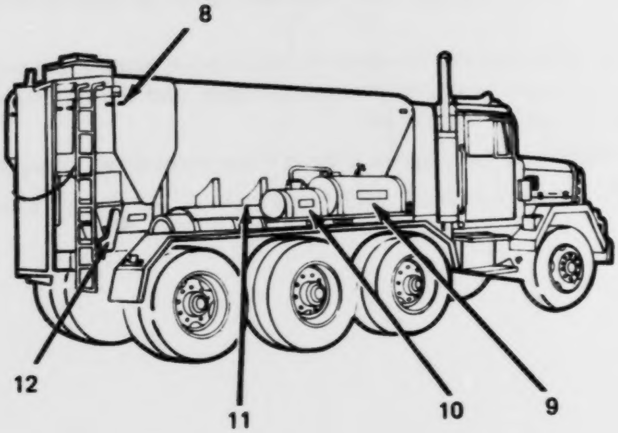
For a description of the components of each system, see sections II thru XI.

2-3. DESCRIPTION.

1. WATER SYSTEM. (Section III) supplies water for mixing concrete and for washing the mixer body.
2. AGGREGATE SUPPLY SYSTEM. (Section V) includes bins for carrying sand and stone, controls and gates for proportioning the aggregates, and a conveyor to carry dry materials to the mixer trough.
3. CEMENT SYSTEM. (Section VI) stores dry cement, meters it out for concrete production, and registers the amount of cement used.
4. ELECTRIC WINCH. (Section X) raises mixer trough for storage, lowers it for concrete mixing.
5. MIXER-AUGER SYSTEM. (Section VII) mixes aggregates, cement, and water to form concrete. During mixing, concrete is carried from conveyor belts to delivery chute at end of mixing trough.
6. HYDRAULIC SYSTEM. (Section VIII) hydraulic pump, driven by belts from power train, turns mixer-auger motor.
7. POWER TRAIN. (Section II) driven by truck engine, through PTO. Provides direct mechanical drive for sand and stone conveyor, cement bin auger and meter, and dry admix auger and meter. Belts from main drive turn water and hydraulic pumps.
8. LAMPS. (Section XI) clearance lamps mark top and sides of mixer body.
9. HI-FLOW LIQUID ADMIX SYSTEM. (Section IV) used for adding relatively large amounts of chemical admixtures to concrete. Air pressure forces admixture from 42 gal (160 l) tank to mixing auger.
10. LOW-FLOW LIQUID ADMIX SYSTEM. (Section IV) same as the hi-flow, except tank has smaller capacity (12 gal, 45 l).
11. AIR SYSTEM. (Section IX) pressurized air from chassis air system. Powers vibrators to shake dry materials from bins, and air pads to loosen settled cement. Also supplies pressure to liquid admix systems. Air hose attachment can be used to blow water system dry in cold weather.
12. DRY ADMIX SYSTEM. (Section IV) injects powdered admixtures and colorings into concrete.

2-3. DESCRIPTION (Continued).





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Section II POWER TRAIN

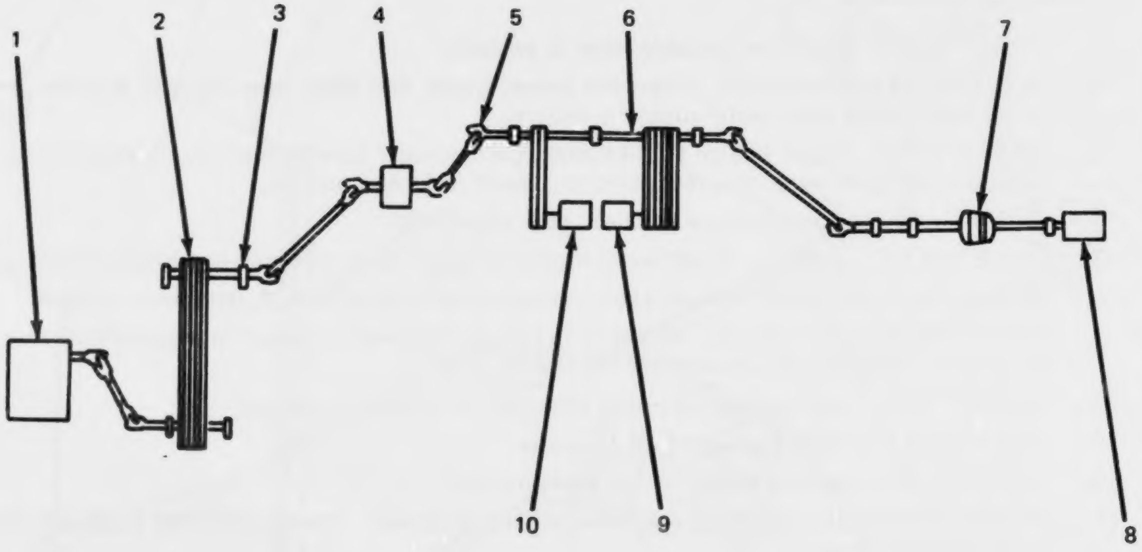
2-4. INTRODUCTION.

The mixer body is mechanically driven by the truck engine. The power train is located on the left side of the unit. It provides power for all mixer body systems except the lamps and the electric winch.

2-5. DESCRIPTION.

1. POWER TAKEOFF (PTO). Supplies engine power to mixer body. When engaged, meshes with transmission gears to turn PTO shaft. (See TM 9-2320-273-20).
2. PTO V-BELTS (5). Driven by PTO jackshaft. Turn main drive.
3. BEARINGS BLOCKS (10). Hold PTO jackshaft and main drive in place. Bearings allow shafts to turn freely.
4. REVERSING GEAR BOX. Reverses direction of shaft rotation.
5. UNIVERSAL JOINTS (8). Transmit rotation between two shafts mounted at an angle.
6. MAIN DRIVE. Driven by PTO V-belts. Rotating shaft powers water pump, hydraulic pump, and angle drive gear box.
7. MAIN CLUTCH. When engaged, connects main drive to angle drive gear box. Manually operated.
8. ANGLE DRIVE GEAR BOX. Powered by main drive when main clutch is engaged. Turns sand and stone conveyor belt, cement meter-feeder, and dry admix feeder. Output shaft mounted at right angle to main drive.
9. HYDRAULIC PUMP. Driven by six V-belts from main drive. Powers mixer-auger.
10. WATER PUMP. Driven by two V-belts from main drive. Pumps water for concrete mixing and cleanup.

2-5. DESCRIPTION (Continued).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Section III WATER SYSTEM

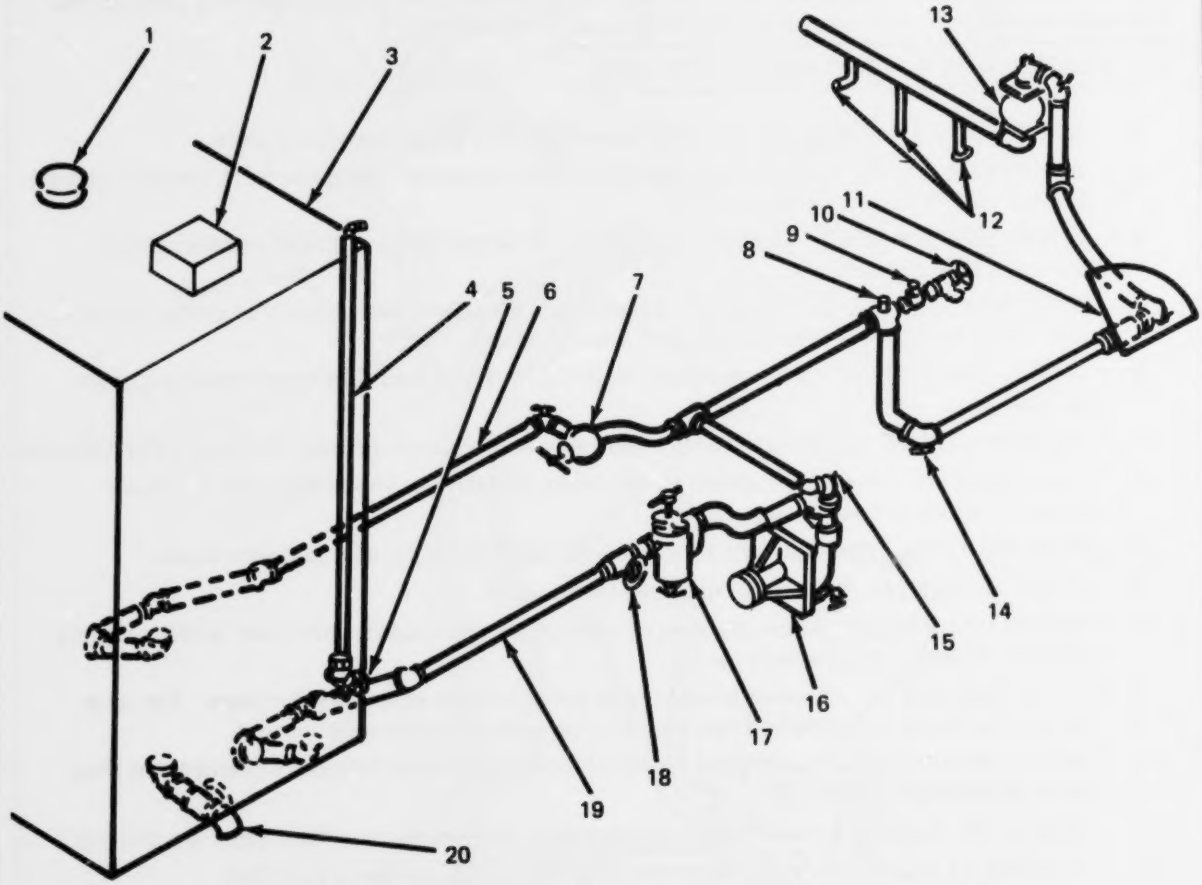
2-6. INTRODUCTION.

The mixer body carries enough water to mix a full load of concrete and clean up afterwards. Pressure should be maintained at 60 psi (414 kPa). The wet admix systems (paras 2-8 and 2-9) are separate from the main system.

2-7. DESCRIPTION.

1. FILLER CAPS. Used when potable water is available.
2. INLET WATER STRAINER. Filters out leaves, stones, and other large particles as water enters tank. Used when water supply is impure.
3. WATER TANK. Holds 400 gal (1514 liters). Carries water for concrete mixing and cleanup. Coated inside with water-repellent paint to prevent leaks and rust.
4. SIGHT GAGE. Allows operator to check tank water level.
5. GAGE VALVE. Used to shut off water supply to gage if gage is broken or being removed.
6. WATER RETURN LINE. Allows water to return from pump through relief valve to tank.
7. PRESSURE RELIEF VALVE. Adjustable valve controls water pressure by regulating flow in return line. Normal pressure is 60 psi (414 kPa).
8. AIR FITTING. Used to blow water out of system to prevent freeze-up.
9. VENT. Used in draining system in cold weather.
10. HOSE VALVE. Controls water flow to washout hose.
11. WATER CONTROL. Controls water flow into mixer trough. Pointer attached to valve handle indicates water flow.
12. SPRAY NOZZLES (3). Spray water into cement and aggregate mixture as it enters mixer trough. Outside nozzles spray at an angle for better mixing action. Admixture solutions are injected into center nozzle.
13. QUICK-OPENING VALVE. Mechanical link to main clutch control automatically opens valve when main clutch is engaged. Allows water from flow control valve to enter spray nozzles.
14. DRAINCOCKS (8). Located at low points of system. Allow water drainage to prevent freeze-up. Must be opened before compressed air is blown into system.
15. AIR FITTING. Used to blow water out of system to prevent freeze-up.
16. WATER PUMP. Supplies pressure to water system. Belt-driven from main drive.
17. SCREEN STRAINER. Filters water flowing into pump.
18. SHUTOFF VALVE. Controls water flow from tank to pump.
19. WATER SUPPLY LINE. Carries water from tank through shutoff valve to pump.
20. DRAIN VALVE. Opens to allow drainage of water from tank.

2-7. DESCRIPTION (Continued).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Section IV ADMIX SYSTEMS

2-8. INTRODUCTION.

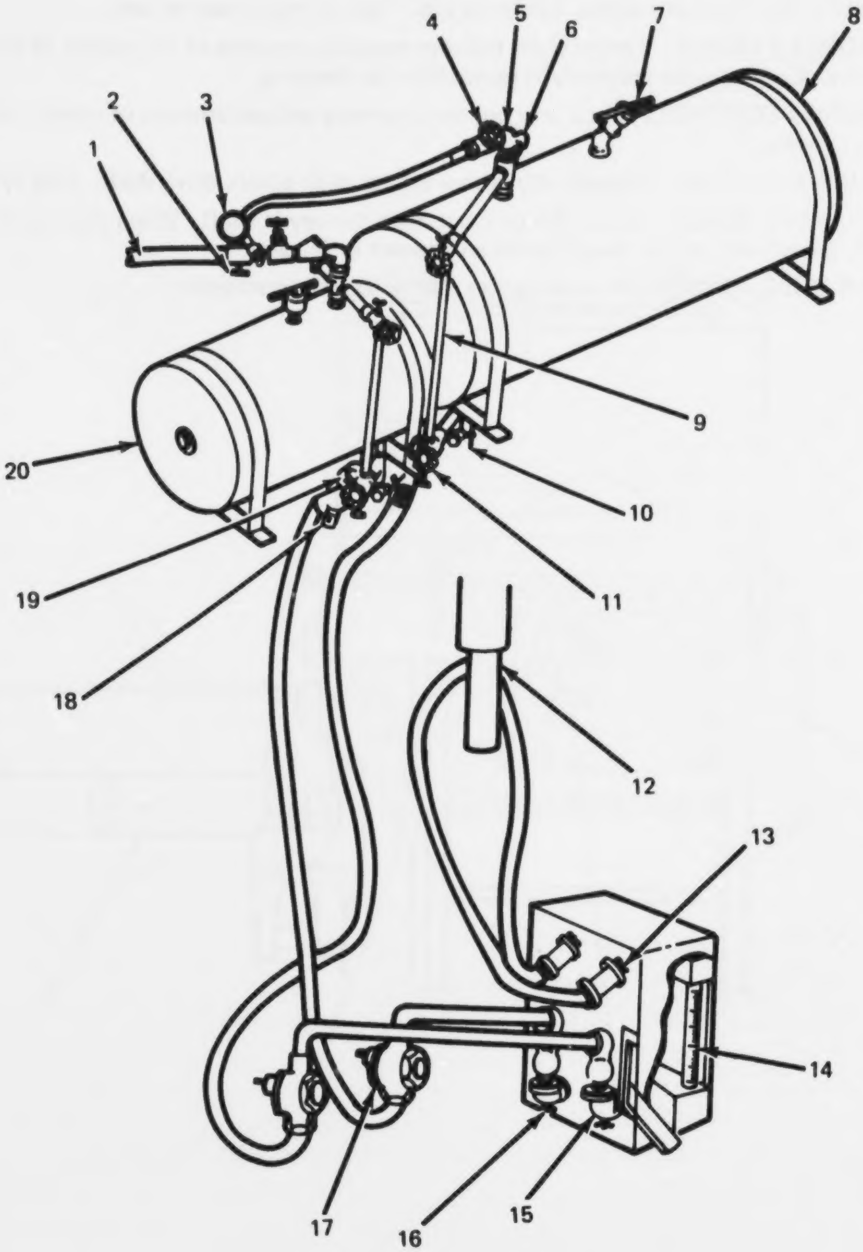
The mixer body has three admix systems for adding chemicals or coloring to concrete. The two liquid admix (exactorate) systems are identical except for the tank capacities. Both tanks are mounted on the right side of the mixer. The liquid admix systems are described in paragraph 2-9.

The dry admix system, mounted on the right rear of the cement bin, adds powdered chemicals and colorings to concrete. It is maintained at the Organizational level.

2-9. DESCRIPTION (LIQUID ADMIX SYSTEMS).

1. AIR SUPPLY LINE. Supplies dry compressed air from mixer body air system.
2. AIR REGULATOR. Controls air pressure to admix systems. Operator turns handle to adjust pressure to 15 psi (103 kPa).
3. AIR PRESSURE GAGE. Indicates air pressure to admix tanks. Normal reading is 14½–15½ psi (100–109 kPa).
4. AIR GATE VALVES (2). Block air pressure to each admix tank when that system is not in use. Open to admit pressure when admixture is needed.
5. CHECK VALVES (2). One-way valves prevent admixture solutions from backing up into air lines.
6. RELIEF VALVES (2). Automatically vent air when pressure exceeds 18-20 psi (124-138 kPa).
7. FILL CAPS (2). Used to fill admix tanks. Vent on each cap allows operator to release pressure before removing cap.
8. HI-FLOW TANK. Pressure-tight tank holds 42 gal (160 liters) of liquid admixture.
9. SIGHT GAGES (2). Show level of liquid in each tank.
10. DRAIN VALVES (2). Allow draining of admixtures from tanks. Also used when pumping admixture under pressure into tanks.
11. GAGE VALVES (4). Close to prevent air and liquid from entering sight gages. Top gage valves have vents for bleeding pressure. Bottom gage valves have draincocks.
12. SPRAY NOZZLE. Inject water and liquid admixture solutions into dry ingredients as they enter mixer-auger trough.
13. VENTS (4). Open to prevent suction blocks when flowmeters and sight gages are drained.
14. FLOWMETERS (2). Floats in calibrated glass tubes indicate admixture flow.
15. CONTROL VALVES (2). Control liquid admixture flow. Adjusted by control levers extending to front of flowmeter assembly.
16. DRAINCOCKS (6). Used to drain admixture solutions from flowmeter assemblies and sight gages.
17. QUICK-ACTING VALVES (2). Allow admixtures to flow from tanks through flowmeter to spray nozzle. Mechanically linked to main clutch, opens automatically when main clutch is engaged.
18. STRAINERS (2). Wire screens filter admixtures flowing from tanks to flowmeter assembly.
19. SOLUTION GATE VALVES (2). Control flow of solutions from tanks to flowmeter assembly.
20. LOW-FLOW TANK. Pressure-tight tank holds 12 gal (45 liters) of liquid admixture.

2-9. DESCRIPTION (LIQUID ADMIX SYSTEM) (Continued).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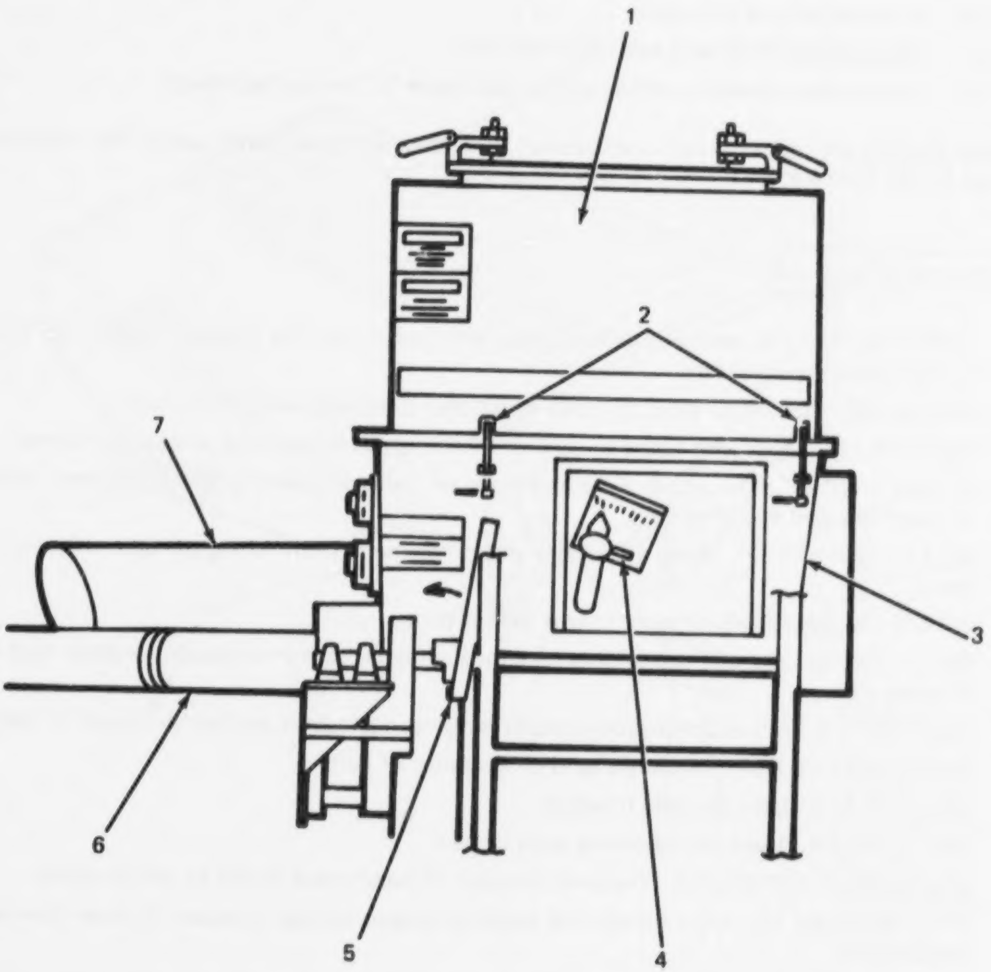
2-10. DRY ADMIX SYSTEM DESCRIPTION.

1. DRY ADMIX BIN. Mounted on rear of cement bin. Powdered admixtures drop from bin into feeder.
2. C-CLAMPS (4). Hold dry admix feeder to bin. Two in front, two in rear.
3. DRY ADMIX FEEDER. Feeder shaft delivers metered amounts of dry admix to main conveyor belt. Entire feeder assembly is removable for cleaning.
4. DRY ADMIX CONTROL. Knob and pointer assembly adjusts amount of admix delivered to main conveyor.
5. DRY ADMIX CLUTCH. Engages dry admix feeder with admix drive shaft. Dog type clutch.
6. ADMIX DRIVE SHAFT. Chain driven from main conveyor shaft. When dog clutch is engaged, powers dry admix feeder shaft and augers in feeder.
7. FEEDER TUBE. Shaft inside tube carries admix to main conveyor.

2-10. DRY ADMIX SYSTEM DESCRIPTION



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Section V AGGREGATE SUPPLY SYSTEM

2-11. INTRODUCTION.

The aggregate supply system is composed of:

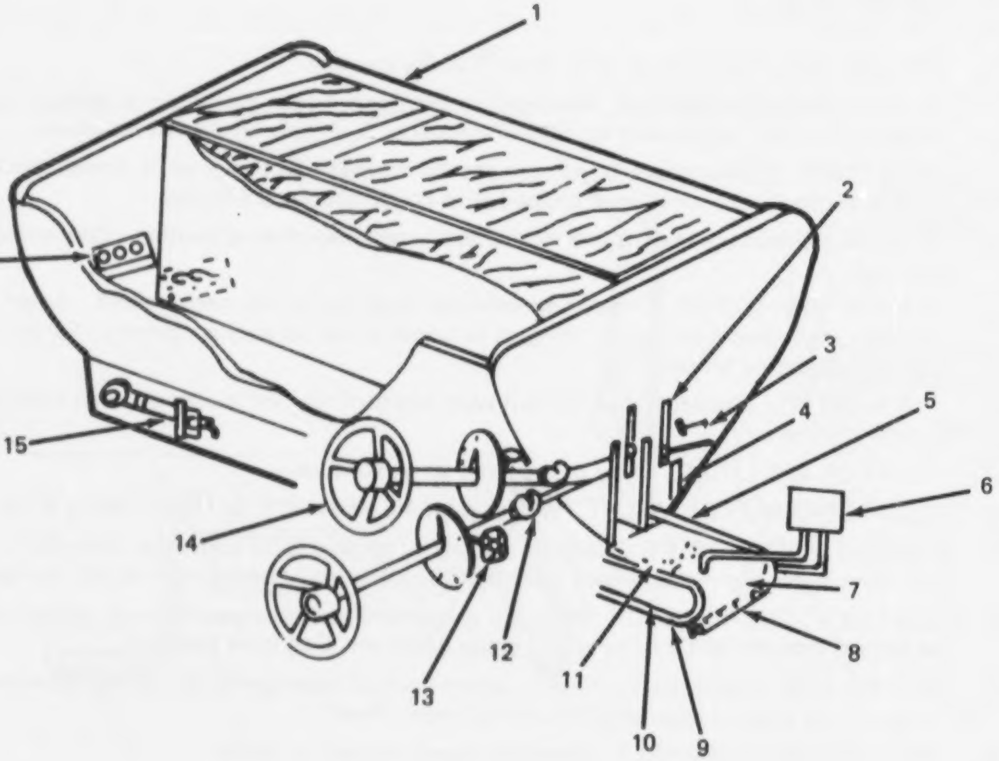
a. A sand bin (on the left).
b. A stone bin (on the right).
c. Gates controlling sand and stone delivery.
d. A conveyor assembly which carries aggregates to the mixing trough.

Although the bins are called "sand" and "stone" bins, their controls are the same. The vibrators mounted on the bins are described in paragraph 2-20.

2-12. DESCRIPTION.

1. SCREENS (6). Sift sand and stone as they are loaded into the hopper. Keep large lumps and foreign objects out of bins.
2. RACKS (2). Welded to gates on bins. Open and close gates as pinions turn.
3. PINIONS (2). Mesh with racks to raise and lower gates when hand wheels are turned.
4. RUBBER GUIDES (5). Keep sand and stone on belt and prevent mixing between bins. Two on each side and one in center.
5. METAL GUIDES (2). Keep aggregates and dry cement from falling off belt. (One on each side.)
6. CHAIN OILER. Drips oil onto chains as belt turns.
7. BELT. Carries sand and stone from bins through gates to mixer trough. Rubber belt is bolted to cross bars.
8. BELT WIPER. Adjustable rubber scraper removes aggregates and cement stuck to belt.
9. SAND DEFLECTOR. Channels sand onto center of belt.
10. BELT CHAIN. Used for belt rotation.
11. BELT LACER. Used for adjoining ends of belt.
12. UNIVERSAL JOINTS (2). Transmit rotation of handwheel shafts to pinion shafts.
13. STOP SCREWS (2). Hold handwheel shafts at proper setting. Loosen to allow turning of handwheels.
14. HANDWHEELS (2). Allow operator to set gate openings through rack and pinion action. Pointers attached to handwheel shafts indicate settings on dials.
15. BELT TENSIONING DEVICES (2). Hold front sprocket in place. Used to adjust belt tension.
16. FRONT SEALS (2). Prevent aggregates from falling through conveyor belt openings in front of bins.

2-12. DESCRIPTION (Continued).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Section VI CEMENT SYSTEM

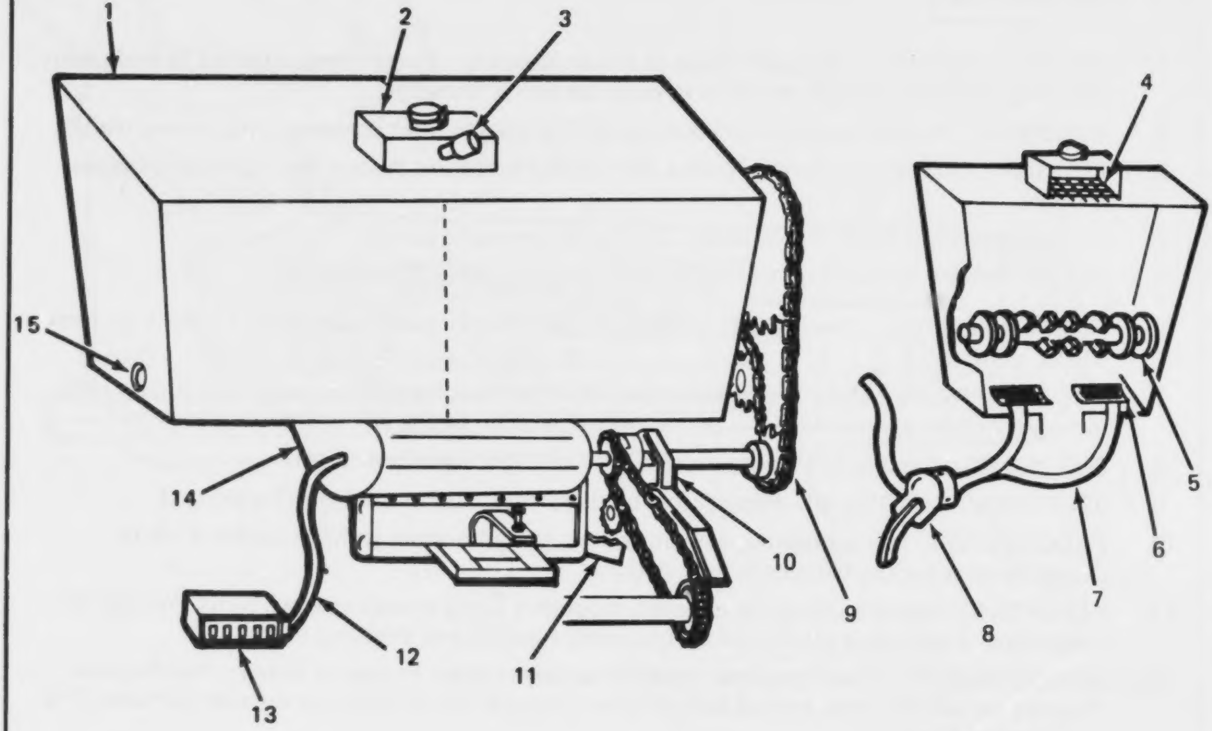
2-13. INTRODUCTION.

The cement system is calibrated to deliver cement at a known, constant rate, while the other ingredients are varied to produce different mixes. For information about the cement bin vibrators, see Section IX.

2-14. DESCRIPTION.

1. CEMENT BIN. Holds 63 cu ft (1.76 m^3) of dry cement.
2. QUICK-LOADING HOPPER. Mounted on cement bin top. Small top opening to accept "elephant trunk," removable lid for bulk loading. Lid gasket seals out moisture.
3. VIBRATOR. Shakes screen to sift cement during loading. Powered by compressed air from chassis air reservoirs. Air line equipped with quick-disconnect fitting.
4. SCREEN. Breaks up cement and strains out large lumps during loading. Connected to vibrator.
5. CEMENT BIN AUGER. Loosens cement and channels it into meter-feeder. Auger blades at ends carry cement to center. Fingers in center break up packed cement. Supported by hardwood bearing block.
6. AIR PADS (2). Loosen settled cement with blasts of air. Air passes through cloth pads held by metal screens.
7. FLUFFER AIR LINES. Carry pressurized air to air pads.
8. FLUFFER CONTROL VALVE. When operated, allows dry air from filter to go to air pads.
9. CEMENT METER DRIVE CHAINS. Driven by sprockets on conveyor drive shaft. Turn cement bin auger and meter feeder. Actuated automatically when main clutch is engaged.
10. CEMENT FEEDER CLUTCH. Normally engaged. When disengaged allows cement meter to be turned independently of sand and stone conveyor. Dog type clutch.
11. SPRING TINE ASSEMBLY. Knocks cement out of meter pockets. Spring tension causes hammers on tines to snap against turning meter wheel.
12. METER REGISTER CABLE. Connects meter-register to feeder.
13. METER REGISTER. Shows units of cement delivered. Large resettable readout indicates cement delivered per job. Smaller readout shows total cement delivered.
14. CEMENT METER-FEEDER. Measures and delivers cement from bin to conveyor belt. Cement is carried in pockets of rotating wheel. Exact capacity varies between units, but will be approximately 2.4 cu ft/min (0.067 m^3/min).
15. BEARINGS (5). Support cement bin auger and meter-feeder shaft. Allow them to turn freely.

2-14. DESCRIPTION (Continued).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Section VII MIXER-AUGER SYSTEM

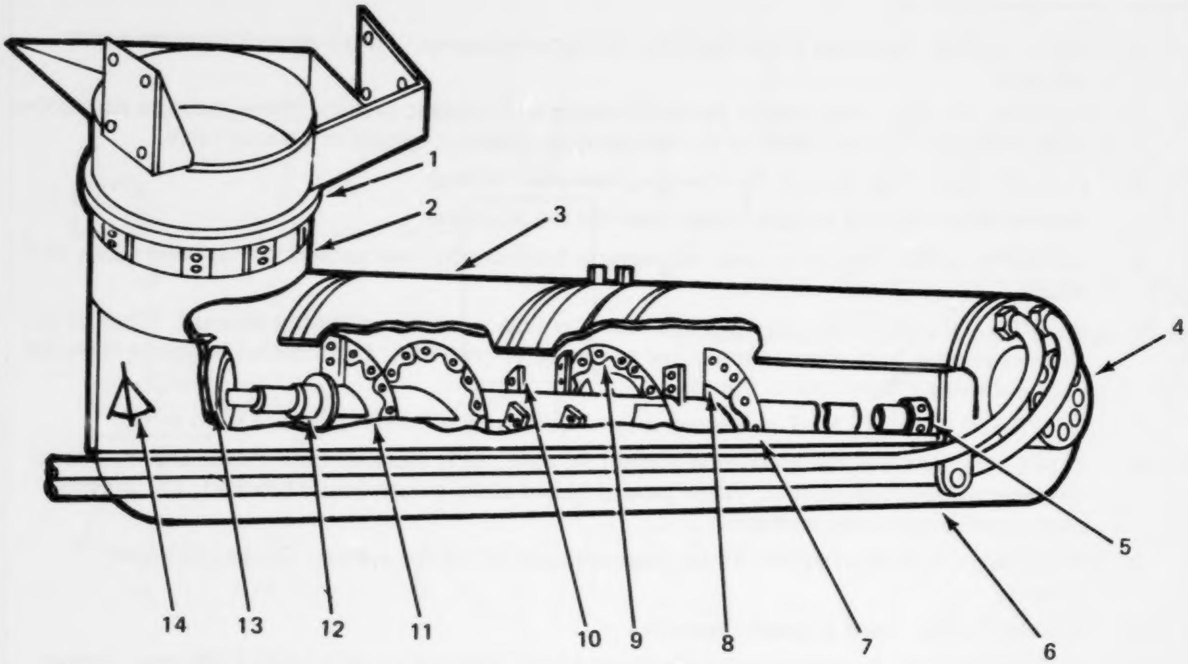
2-15. INTRODUCTION.

The mixer-auger combines the wet and dry ingredients to make concrete. The system consists of a hydraulically-powered auger turning in the mixer trough. (Further information about the hydraulic motor may be found in Section VIII). The assembly is raised and lowered by an electric winch (Section X).

2-16. DESCRIPTION.

1. SWIVEL ASSEMBLY. Supports front of mixer assembly. Fixed frame is bolted to main body. Rotating ring holds trough, allows it to pivot on swivel frame.
2. MINISKIRT. Rubber guard channels concrete ingredients from conveyor into mixing trough.
3. TROUGH COVERS. Prevent splashing and protect personnel from auger. Lift up for access to auger.
4. HYDRAULIC MOTOR. Turns auger. Driven by hydraulic pump.
5. AUGER DRIVE BUSHING. Connects auger core to hydraulic motor.
6. RUBBER BOTTOM. Flexible trough bottom "gives" to prevent auger from breaking on lumps and large stones.
7. TROUGH FRAME. Metal frame supports rubber bottom, hydraulic motor, and auger. Held to swivel ring by a cotter-key and pin assembly. Can be swung left or right to about 85°.
8. BLADES (8). Replaceable blades protect ends of flighting. (Bolted on.)
9. SECTIONAL BLADES (9). Replaceable blades protect flighting edge. (Bolted on.)
10. PADDLES (26). Mix aggregates, cement, water, and admixture to form concrete. A replaceable wear paddle bolts onto each paddle.
11. FLIGHTING. Spiral blades push concrete through mixing trough as auger turns. Welded to auger core. Flighting is reinforced by replaceable blades and sectional blades.
12. MIXING AUGER. Mixes concrete ingredients, carries them to rear of trough. Paddles and flighting are welded onto core of hollow pipe. Pipe has 2¼ in. (5.7 cm) outside diameter, 7 ft (2.1 meters) long.
13. BEARING. Supports front end of auger. Allows it to turn freely.
14. INCLINOMETER. Indicates angle of elevation of mixing trough. Auger is normally operated at a 15°-25° angle.

2-16. DESCRIPTION (Continued).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Section VIII HYDRAULIC SYSTEM

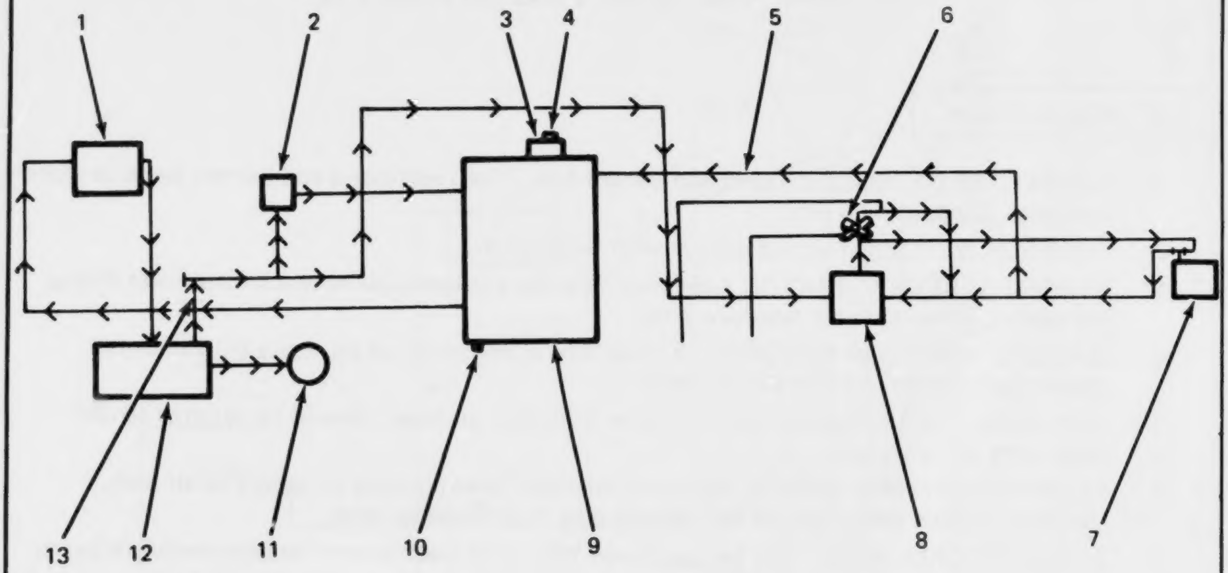
2-17. INTRODUCTION.

The hydraulic system is driven by belts from the main drive (Section II) and provides power for the mixer-auger (Section VII).

2-18. DESCRIPTION.

1. OIL FILTER. Removes impurities from oil entering pump. Throw-away 33 micron paper element.
2. RELIEF VALVE. Adjusted to control pressure in hydraulic system. When pressure rises above 1900-2000 psi (13100-13800 kPa), diverts oil to reservoir instead of control valve.
3. FILLER CAP. Has dipstick for checking reservoir oil level.
4. BREATHER. Allows air and fumes from hot oil to escape.
5. RETURN LINE. Carries oil back to reservoir from control and bypass valves, relief valve, and motor.
6. BYPASS VALVE. (Normally closed). Used to slow mixer-auger during cleanup. When open, allows some oil from motor supply line to escape to reservoir. Color coded bands on stem aid in establishing proper rate of bypass.
7. HYDRAULIC MOTOR . Turns mixer-auger. Driven by oil under pressure from pump.
8. CONTROL VALVE. When lever is pushed forward, oil is blocked from motor and returns to reservoir through return line. When lever is pulled back, return line is blocked. Oil goes to motor and mixer-auger operates.
9. HYDRAULIC RESERVOIR. Holds reserve supply of oil for system. 34 gal (129 liter) capacity.
10. DRAIN PLUG. Used to drain reservoir.
11. TACHOMETER. Indicates hydraulic pump speed. Normal range is 1620-1720 rpm. Driven by cable from center of hydraulic pump pulley.
12. HYDRAULIC PUMP. Supplies pressure to drive hydraulic motor. Driven by six V-belts from main drive. Pump speed depends on truck engine speed. Will vary as main clutch and mixer-auger are engaged.
13. GAGE POINT. (Normally plugged). Plug can be removed and gage inserted to test hydraulic pressure. Pressure should be 1900-2000 psi (13100-13800 kPa). Located so gage can be read while relief valve is adjusted.

2-18. DESCRIPTION (Continued).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Section IX AIR SYSTEM

2-19. INTRODUCTION.

The mixer body air system draws pressure from the chassis air reservoir. A safety valve at the reservoir cuts off the mixer body air supply if reservoir pressure drops below 65 psi (448 kPa).

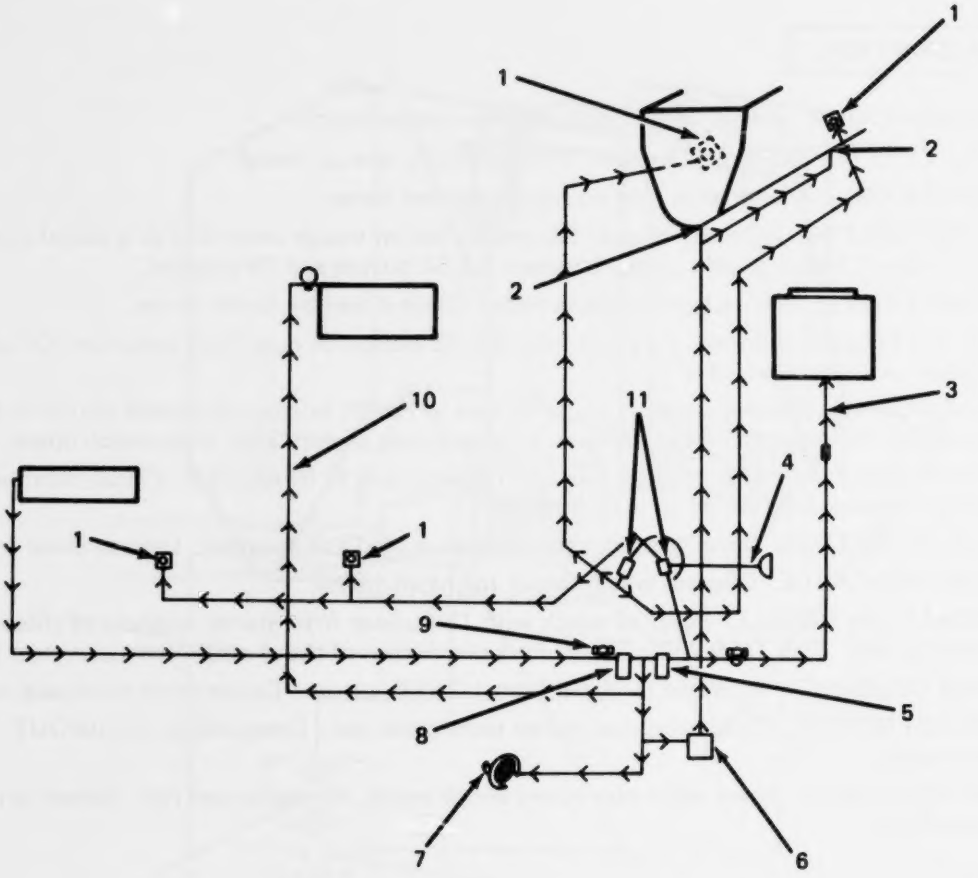
NOTE

The cement screen vibrator is described in para 2-14.

2-20. DESCRIPTION.

1. VIBRATORS (4). Shake the sand and cement bins. Keep aggregates and cement loose; prevent bridging. (Two on each bin.)
2. AIR PADS (2). Loosen settled cement with blasts of air.
3. CEMENT SCREEN VIBRATOR AIR LINE. Carries lubricated air to quick-disconnect fitting for cement screen vibrator (see para 2-14).
4. MANUAL VIBRATOR CONTROL. Allows manual activation of aggregate bin vibrators. Handle connects to rear vibrator air valve.
5. AIR LUBRICATOR. Sprays fine oil mist into vibrator air lines. Should be adjusted to one drop every 3rd vibration.
6. FLUFFER CONTROL VALVE. Manually operated valve controls air supply to air pads. Mounted "upside down" to prevent cement dust from clogging valve.
7. AUXILIARY AIR HOSE. May be used on air fittings of water system to blow moisture out in cold weather.
8. AIR FILTER. Removes moisture from incoming air. Petcock in bottom for draining trapped liquid.
9. GATE VALVE. Controls air flow from chassis reservoir to mixer body air system.
10. LIQUID ADMIX AIR SUPPLY LINE. Carries dry air from filter to liquid admix system (para 2-9).
11. VIBRATOR AIR VALVES. Control air supply on vibrators. Mounted above cam attached to cement meter-feeder. Open when contacted by cam lobe.

2-20. DESCRIPTION (Continued).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Section X ELECTRIC WINCH

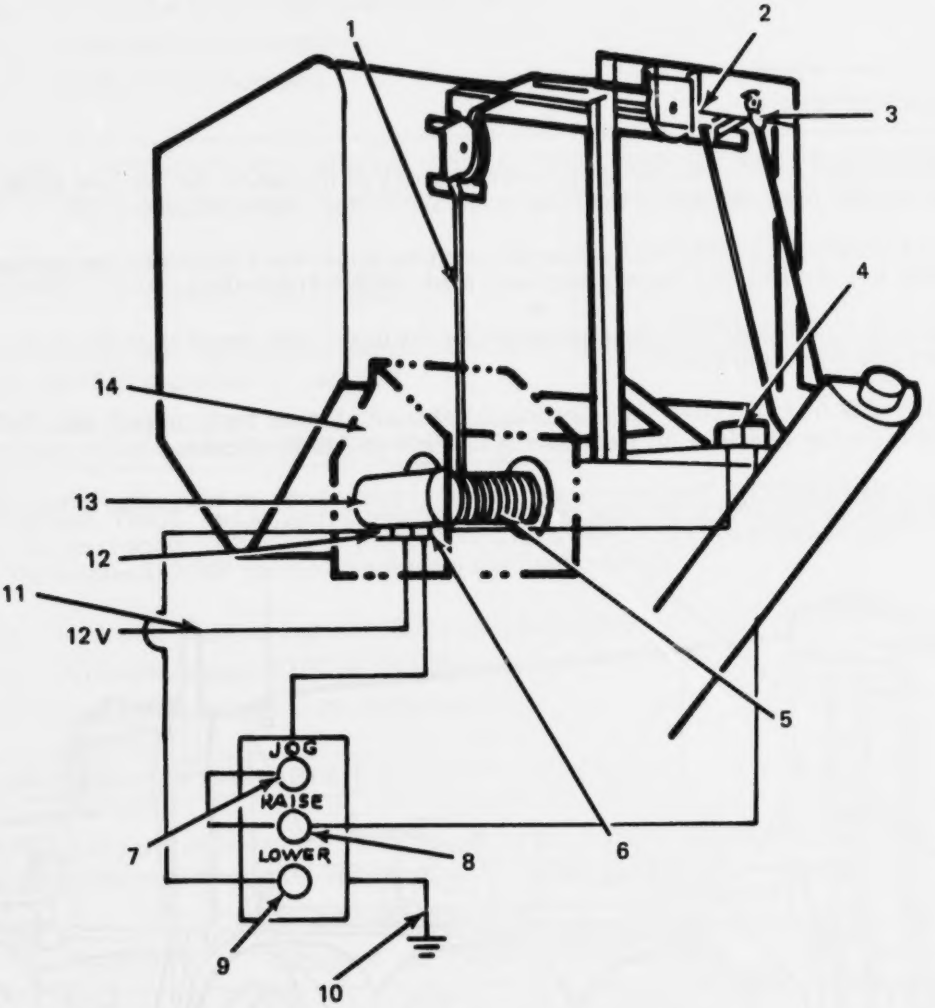
2-21. INTRODUCTION.

The electric winch raises and lowers the mixing trough. It draws power from the chassis electrical system.

2-22. DESCRIPTION.

1. WINCH CABLE. Raises, lowers, and supports mixing trough.
2. PULLEYS (4). Guide winch cable. Three on body, one on trough.
3. CABLE END. Anchored to loop on trough support frame.
4. LIMIT SWITCH. Normally closed. Opened by bar on trough when trough is pulled up against the support frame. Breaks circuit between RAISE button and IN solenoid.
5. CABLE REEL. Pays out and winds in cable. Chain driven by winch motor.
6. IN SOLENOID. Activated by signal from RAISE button through limit switch or JOG switch. Causes cable to be sealed in.
7. JOG BUTTON. When pressed at the same time as RAISE button, completes circuit to IN solenoid. Provides alternative pathway to raise trough slightly after limit switch opens.
8. RAISE BUTTON. When pressed, partially closes circuit to IN solenoid. Circuit must be completed through limit switch or JOG button.
9. LOWER BUTTON. When pressed, closes circuit to the OUT solenoid. Used to lower trough.
10. GROUND CABLE. Grounds winch circuit to chassis frame.
11. POWER UNIT CABLE. Supplies winch with 12V power from starter solenoid of chassis electrical system. (See TM 9-2320-273-20 for a description of the chassis electrical system.)
12. OUT SOLENOID. Activated by signal from LOWER button. Causes cable to be paid out.
13. WINCH MOTOR. 12-volt electrical motor turns cable reel. Energized by IN and OUT solenoids.
14. WINCH GUARD. Sheet metal box covers winch motor, solenoids, and reel. Bolted to rear of cement bin.

2-22. DESCRIPTION (Continued).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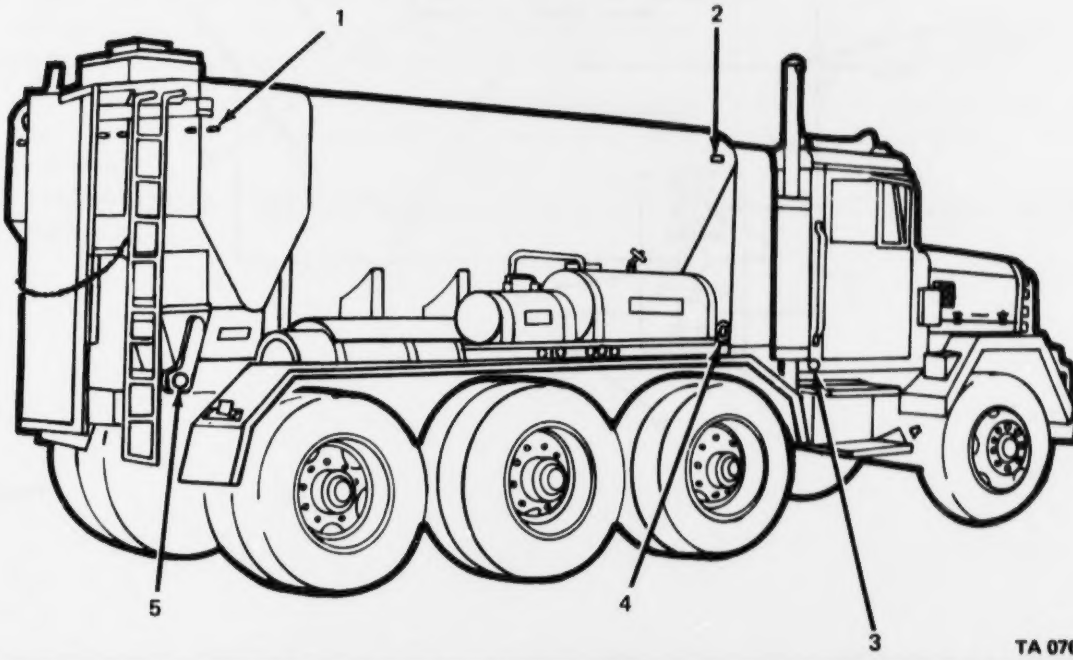
Section XI LAMPS

2-23. INTRODUCTION.

The lamps on the mixer body are an extension of the chassis marker and clearance lamps system. The lamps go on automatically when the chassis blackout switch is set to NORMAL and the headlamp switch is in either of its two "ON" positions. (See TM 9-2320-273-20 for a description of chassis marker and clearance lamps).

2-24. DESCRIPTION.

1. MARKER LAMPS. Five red lamps across the back of the cement bin and one on each side of the bin. Mark the rear of the mixer body. Wired from inside the cement bin.
2. CLEARANCE LAMPS. Four yellow lamps on the upper front corners of the aggregate bins. Two face forward, one faces to each side. Mark width of mixer body.
3. 12-VOLT CONNECTOR. Supplies power for the mixer body lamps from the chassis marker and clearance lamp circuit.
4. YELLOW REFLECTOR. Two, one located at front of mixer body on each side. Reflect light to other vehicle(s) for visual safety, if lamps are not functioning.
5. RED REFLECTOR. Two, one located at rear of mixer body on each side. Reflect light to other vehicle(s) for visual safety, if lamps are not functioning.



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CHAPTER 3

INTEGRATED MAINTENANCE

3-1. OVERVIEW.

This chapter provides you with the following information related to overall mixer body maintenance.

a. All required special tools and equipment.

b. Troubleshooting procedures.

c. Maintenance procedures.

Section I REPAIR PARTS, SPECIAL TOOLS, TMDE, AND SUPPORT EQUIPMENT

3-2. COMMON TOOLS AND EQUIPMENT.

For authorized common tools and equipment, refer to the Modified Table of Organization and Equipment (MTOE) applicable to your unit.

3-3. SPECIAL TOOLS, TMDE, AND SUPPORT EQUIPMENT.

The special tools, TMDE, and support equipment for mixer body integrated maintenance procedures described in this chapter are limited to the following item. (Refer to Organizational Maintenance RPSTL, TM 5-3895-372-20P for tool description and illustration.)

a. Hydraulic pressure gage, 0-5000 psi (0-34475 kPa).

b. Air pressure gage, 0-150 psi (0-1000 kPa).

c. Water pressure gage, 0-75 psi (0-500 kPa).

3-4. SPARES AND REPAIR PARTS.

Spares and repair parts are listed and illustrated in the Repair Parts and Special Tools List covering Organizational Maintenance for the equipment (TM 5-3895-372-20P).

Section II SERVICE UPON RECEIPT

3-5. CHECKING UNPACKED EQUIPMENT.

a. Inspect the equipment for damage incurred during shipment. If the equipment has been damaged, report the damage on DD Form 6, Packaging Improvement Report.

b. Check the equipment against the packaging slip to see if the shipment is complete. Report all discrepancies in accordance with the instructions of TM 38-750.

3-6. SERVICE UPON RECEIPT CHECKLIST – M919 MIXER BODY.

	LOCATION/ITEM	ACTION	REMARKS
1.	Protective wrappings.	Remove.	
2.	Parts and cartons.	Remove from sand, stone, and cement bins.	
3.	Hold-down bolts.	Tighten.	
4.	Meter-feeder.	Turn with hand crank. Check for: a. Free feeder movement. b. Meter-register operation.	See para 8-5 for instructions on use of the hand crank.
5.	Main clutch, cement bin clutch, dry admix dog clutch.	Check for: a. Free operation. b. Proper lubrication.	See LO 5-3895-372-12 and TM 5-3895-372-10.
6.	Liquid admix tanks.	Fill with water. Check for leaks. Check flowmeters calibration.	See TM 5-3895-372-10 and see para 6-10.
7.	Water tank.	Fill. Check system for leaks. Check water control calibration.	
8.	PTO.	Engage. Make dry run.	See TM 5-3895-372-10 and TM 9-2320-273-10.
9.	Mixer body.	a. Fill with sand, stone, cement, and admixtures.	See TM 5-3895-372-10.
		b. Using mix setting chart, check yield of each mix.	See TM 5-3895-372-10.

Section III PREVENTIVE MAINTENANCE CHECKS AND SERVICES

3-7. ORGANIZATIONAL PREVENTIVE MAINTENANCE CHECKS AND SERVICES.

To insure that the mixer body is ready for operation at all times, it must be inspected systematically so that defects may be discovered and corrected before they result in serious damage or failure. Table 3-1 contains a tabulated listing of preventive maintenance checks and services to be performed by organizational maintenance personnel. All deficiencies and shortcomings will be recorded, as well as, the corrective action taken on DA Form 2404 at the earliest possible opportunity.

a. The item numbers of Table 3-1 indicate the sequence of the PMCS. Perform at the intervals shown below:

(1) Do your (Q) PREVENTIVE MAINTENANCE once each 3 months.

(2) Do your (S) PREVENTIVE MAINTENANCE twice a year, or each 6 months.

(3) Do your (A) PREVENTIVE MAINTENANCE once each year.

(4) Do your (B) PREVENTIVE MAINTENANCE once each two years.

(5) Do your (H) PREVENTIVE MAINTENANCE at the hour interval listed.

(6) Do your (MI) PREVENTIVE MAINTENANCE when the mileage of the vehicle reaches the amount listed.

b. If something doesn't work, troubleshoot it with the instructions in this manual or notify your supervisor.

c. Always do your preventive maintenance in the same order, so it gets to be a habit. Once you've had some practice, you'll spot anything wrong in a hurry.

d. If anything looks wrong and you can't fix it, write it down on your DA Form 2404. If you find something seriously wrong, report it to direct support as soon as possible.

WARNING

Dry cleaning solvent SD-2, used to clean parts, is potentially dangerous to personnel and property. Do not use near open flame or excessive heat. Flash point of solvent is 138°F.

(1) Keep it clean: Dirt, grease, oil, and debris only get in the way and may cover up a serious problem. Clean as you work and as needed. Use dry cleaning solvent (SD-2) to clean metal surfaces. Use soap and water when you clean rubber or plastic material.

(2) Bolts, nuts, and screws: Check that they are not loose, missing, bent, or broken. You can't try them all with a tool, of course, but look for chipped paint, bare metal, or rust around bolt heads. Tighten any that you find loose.

(3) Welds: Look for loose or chipped paint, rust, or gaps where parts are welded together. If you find a bad weld, report it to direct support.

(4) Electric wires and connectors: Look for cracked or broken insulation, bare wires, and loose or broken connectors. Tighten loose connections and make sure the wires are in good condition.

(5) Hoses and fluid lines: Look for wear, damage, and leaks. Make sure clamps and fittings are tight. Wet spots show leaks, of course, but a stain around a fitting or connector can mean a leak. If a leak comes from a loose fitting or connector, tighten it. If something is broken or worn out, either correct it or report it to direct support (refer to MAC chart).

e. It is necessary for you to know how fluid leaks affect the status of your equipment. The following are definitions of the types/classes of leakage you need to know to be able to determine the status of your equipment. Learn and be familiar with them and REMEMBER — When in doubt, notify your supervisor!

Leakage definitions for Organizational PMCS:

CLASS I	Seepage of fluid (as indicated by wetness or discoloration) not great enough to form drops.
CLASS II	Leakage of fluid great enough to form drops but not enough to cause drops to drip from the item being checked/inspected.
CLASS III	Leakage of fluid great enough to form drops that fall from the item being checked/inspected.

Table 3-1. ORGANIZATIONAL PREVENTIVE MAINTENANCE CHECKS AND SERVICES

Q—Quarterly S—Semiannually A—Annually B—Biennially H—Hours M—Miles

ITEM NO.	INTERVAL						ITEM TO BE INSPECTED
	Q	S	A	B	H	MI	PROCEDURE: Check for and have repaired, filled, or adjusted as needed.
							NOTE
							PERFORM OPERATOR/CREW PMCS PRIOR TO OR IN CONJUNCTION WITH ORGANIZATIONAL PMCS IF:
							a. There is a delay between the daily operation of the equipment and the organizational PMCS.
							b. Regular operator is not assisting/participating.
							ELECTRICAL SYSTEM
1		●					Check wiring harness for corrosion and bare wires. Replace defective wiring.
2	●						Check all lights for proper operation. Replace defective lamps and lights.
							BODY
3		●					Replace all mounting tie downs and fasteners that are badly damaged or broken.
							MAIN DRIVE
4	●						Check belts for wear and damage. Replace defective belts.
5	●						Check all U-joints. Check for wear and cracks. Replace defective U-joints.
6		●					Service reversing gear box.
7		●					Service angle drive gear box.
8	●						Adjust main clutch, if necessary.
							WATER SYSTEM
9			●				Check for deterioration and leaks in coolant lines, hoses, fittings, valves, filter and tank. Repair leaks or replace items as needed.
10		●					Service water system strainer.
11	●						Service system for lowest freezing temperature expected.
							SAND AND STONE BINS
12		●					Check screens and repair or replace broken rods.
13	●						Check sand and stone bin front seal for cracked or damaged seals.

Table 3-1. ORGANIZATIONAL PREVENTIVE MAINTENANCE CHECKS AND SERVICES (Continued)

Q—Quarterly S—Semiannually A—Annually B—Biennially H—Hours M—Miles

ITEM NO.	INTERVAL						ITEM TO BE INSPECTED
	Q	S	A	B	H	MI	PROCEDURE: Check for and have repaired, filled, or adjusted as needed.
							CEMENT BIN
14	●						Adjust meter-feeder spring tines.
15	●						Check filter cloth operation. If torn or badly clogged, replace.
16		●					Check cement meter register cable for free operation. Lubricate cable.
							MIXING TROUGH
17	●						Check and replace worn auger wear plates.
18	●						Check auger alignment. If wobbly, repair.
19	●						Check rubber trough. Repair tears or replace entire trough.
							WINCH
20		●					Check wiring harness for corrosion and bare wires. Replace defective wiring.
21		●					Check cable for fraying, kinks, or broken strands. Replace, if necessary.
22			●				Service gear box.
							CONVEYOR
23	●						Adjust conveyor belt.
24	●						Hammer down loose prongs on belt lacers. Check that all bolts are in place.
							HYDRAULIC SYSTEM
25				●			Change oil filter.
							NOTE Change oil filter after 6 months, then every 2 years.
26	●						Check hydraulic system for 1900-2000 psi pressure. Adjust valve, if necessary.
27	●						Replace any faulty lines or fittings.

Table 3-1. ORGANIZATIONAL PREVENTIVE MAINTENANCE CHECKS AND SERVICES (Continued)

Q—Quarterly S—Semiannually A—Annually B—Biennially H—Hours M—Miles

ITEM NO.	INTERVAL						ITEM TO BE INSPECTED PROCEDURE: Check for and have repaired, filled, or adjusted as needed.
	Q	S	A	B	H	MI	
							AIR SYSTEM
28	●						Check for air leaks in lines, valves and fittings with vehicle pressure of 60-120 psi. Repair or replace leaking lines, valves or fittings.
							LIQUID ADMIX
29	●						Service liquid admix strainer.
							DRY ADMIX
30	●						Check auger alignment. If wobbly, repair.

Section IV TROUBLESHOOTING SYMPTOM INDEX

3-8. INTRODUCTION.

Detailed troubleshooting procedures are provided in chapters 4 thru 13 of this manual. The procedures are arranged by malfunctions within each system. The following Malfunction Symptom Index will help you find the procedure you need.

Table 3-2. Composite Troubleshooting Symptom Index.

	Troubleshooting Procedures	
	Table	Page Number
ADMIX SYSTEMS.		
Air pressure cannot be maintained at 15 psi (103 kPa).	6-1	6-3
Liquid admix flows unevenly.	6-1	6-3
Liquid admix flows too quickly.	6-1	6-5
Liquid admix flows too slowly or not at all.	6-1	6-5
Quick-opening valve sticks.	6-1	6-7
Flowmeter does not return to zero.	6-1	6-8
Dry admix system inoperative.	6-1	6-8
AGGREGATE SUPPLY SYSTEM.		
Conveyor belt does not move.	7-1	7-3
Conveyor belt is loose.	7-1	7-4
Conveyor belt is torn or damaged.	7-1	7-4
Sand or stone drops on ground beneath concrete mobile during mixing.	7-1	7-6
Sand or stone controls out of adjustment.	7-1	7-6
Excessive wear on chains.	7-1	7-7
AIR SYSTEM.		
Air pressure is low (below 65 psi, 448 kPa)	11-1	11-3
Cement in bin is not properly aerated.	11-1	11-3
Vibrators do not function properly.	11-1	11-4
CEMENT SYSTEM.		
Hard lumps of cement in bin.	8-1	8-6
Cement delivery uneven.	8-1	8-7
Meter-feeder does not turn.	8-1	8-10
Cement bin auger will not turn.	8-1	8-12

Table 3-2. Composite Troubleshooting Symptom Index (Continued).

	Troubleshooting Procedures	
	Table	Page Number
CEMENT SYSTEM (Continued).		
Cement meter feeder blocked in place.	8-1	8-13
Cement counter does not operate.	8-1	8-13
Cement screen does not vibrate.	8-1	8-14
ELECTRIC WINCH.		
Trough does not raise or lower.	12-1	12-3
Trough does not raise.	12-1	12-3
Trough does not lower.	12-1	12-3
HYDRAULIC SYSTEM.		
Hydraulic motor does not operate.	10-1	10-2
Hydraulic pump is noisy.	10-1	10-3
Hydraulic pressure is low.	10-1	10-3
Hydraulic motor vibrates.	10-1	10-3
Tachometer does not work properly.	10-1	10-3
LAMPS.		
See paragraphs 13-5 and 13-6.		13-2
MIXER-AUGER SYSTEM.		
Mixer-auger stalls, will not rotate.	9-1	9-2
Mixer-auger vibrates.	9-1	9-2
Swivel ring binds — chute hard to move.	9-1	9-2
POWER TRAIN.		
Noisy shaft bearings.	4-1	4-2
Power train V-belt slippage.	4-1	4-2
Main clutch slips.	4-1	4-2
Angle drive gear box runs hot, is noisy.	4-1	4-2

Table 3-2. Composite Troubleshooting Sympton Index (Continued).

	Troubleshooting Procedures	
	Table	Page Number
WATER SYSTEM.		
Mix water does not flow at a steady rate.	5-1	5-3
Water line valves leak.	5-1	5-4
Quick Opening valve sticks.	5-1	5-4

CHAPTER 4

POWER TRAIN

4-1. OVERVIEW.

This chapter provides you with the following information related to power train maintenance.

a. All required special tools and equipment.
b. Troubleshooting procedures.
c. Maintenance procedures.

Section I REPAIR PARTS, SPECIAL TOOLS, TMDE, AND SUPPORT EQUIPMENT

4-2. COMMON TOOLS AND EQUIPMENT.

For authorized common tools and equipment, refer to the Modified Table of Organization and Equipment (MTOE) applicable to your unit.

4-3. SPECIAL TOOLS, TMDE, AND SUPPORT EQUIPMENT.

No special tools, TMDE, or support equipment are required for power train maintenance procedures described in this chapter.

4-4. SPARES AND REPAIR PARTS.

Spares and repair parts are listed and illustrated in the Repair Parts and Special Tools List covering Organizational Maintenance for this equipment (TM 5-3895-372-20P).

Section II TROUBLESHOOTING

4-5. INTRODUCTION.

Troubleshooting procedures for the power train are given in table 4-1. It is arranged by malfunctions, in the following order:

a. Noisy shaft bearings (Malfunction No. 1).
b. Power train V-belt slippage (Malfunction No. 2).
c. Main clutch slips (Malfunction No. 3).
d. Angle drive gear box runs hot, is noisy (Malfunction No. 4).

Table 4-1. Power Train Troubleshooting.

MALFUNCTION

TEST OR INSPECTION

CORRECTIVE ACTION

1. NOISY SHAFT BEARINGS:

Step 1. Inspect for signs of excessive heat and dryness.

Lubricate bearings. (See LO 5-3895-372-12).

Step 2. Inspect for vibrating, seized, cracked or worn bearings.

Replace shaft bearings (para 4-12 and 4-13).

2. POWER TRAIN V-BELT SLIPPAGE:

Step 1. Inspect for loose V-belts.

Adjust V-belts (paras 4-11, 4-16, and 4-17).

Step 2. Inspect for worn or oil saturated V-belts.

Replace V-belts (paras 4-11, 4-16, and 4-17).

Step 3. Inspect drive shafts, water pump, and hydraulic pump for binding or seizure.

a. Replace drive shaft bearings (paras 4-12 and 4-13).

b. Inspect and repair water pump (para 5-10).

c. Inspect and repair hydraulic pump. Notify Direct Support Maintenance.

3. MAIN CLUTCH SLIPS:

Step 1. Inspect for signs of excessive heat, burning, and lost motion.

Adjust main clutch (para 4-18).

Step 2. Inspect clutch discs for excessive wear, oil saturation, contamination.

Repair main clutch, Notify Direct Support Maintenance.

4. ANGLE DRIVE GEAR BOX RUNS HOT, IS NOISY:

Step 1. Check oil level in gear box.

Add oil. (Refer to TM 5-3895-372-10 and LO 5-3895-372-12).

Step 2. Check gear box for plugged breather holes in cap.

a. Use wire to unplug holes.

b. If problem still persists, notify Direct Support Maintenance.

Section III MAINTENANCE PROCEDURES.

4-6. INTRODUCTION.

This section provides you with Organizational level maintenance procedures for the power train of the mixer body. Paragraph 4-7 summarizes the maintenance tasks. Paragraphs 4-8 thru 4-19 contain detailed instructions for each task.

4-7. MAIN DRIVE ASSEMBLY MAINTENANCE TASK SUMMARY.

INITIAL SETUP

APPLICABLE CONFIGURATIONS

M919.

TEST EQUIPMENT

None.

SPECIAL TOOLS

None.

EQUIPMENT CONDITION PARAGRAPH	CONDITION DESCRIPTION
4-8A.	Cement Register Removed.
4-8A.	Reversing Gear Box Removed (as needed).
4-16A & 4-17A.	Belts Loosened.
4-16B & 4-17B.	Belts Removed.
4-10A.	Universal Joints Removed (as needed).
4-12A.	Shaft Assemblies Removed.
10-12A.	Tachometer and Mounting Bracket Removed.
4-15A Steps 1 & 2.	Covers Removed.

MATERIALS/PARTS (P/N)

Lubricant – (Refer to Appendix C).
GAA – (Refer to Appendix C).
Dry Cleaning Solvent–(Refer to Appendix C).
Universal Kits, 2675 X 28188, (50663).
Universal Kit, 1875 X, (50663).
V-Belts – Drive, NP-5032-120, (50663).
Lock Wire (Refer to Appendix C).
V-Belts – Water Pump, NP 5032 010, (50663).
V-Belts – Hyd Pump NP 5032 002, (50663).
Penetrating Oil (Refer to Appendix C).
Liquid Teflon – (See Appendix C).

PERSONNEL REQUIRED

Two (MOS-63B20).

REFERENCES (TM)

LO 5-3895-372-12.
TM 5-3895-372-10.
TM 9-2320-273-10.
TM 5-3895-372-20P.

REFERENCES (TROUBLESHOOTING)

Table 4-1.

SPECIAL ENVIRONMENTAL CONDITIONS

Vehicle Parked on Level Ground.

GENERAL SAFETY INSTRUCTIONS

Engine Off.
Transmission in Neutral.
Park Brake Set.

LIST OF TASKS

TASK NO.	TASK	TASK REF	TROUBLESHOOTING REF (TABLE)
1.	Reversing Gear Box Maintenance:	4-8	4-1
	A. Removal.	4-8A	
	B. Installation.	4-8B	
	C. Checking oil level.	4-8C	
2.	PTO to PTO Belts Shaft - Universal Joints Maintenance:	4-9	4-1
	A. Removal.	4-9A	
	B. Disassembly.	4-9B	
	C. Cleaning and inspection.	4-9C	

4-7. MAIN DRIVE ASSEMBLY MAINTENANCE TASK SUMMARY (Continued).

LIST OF TASKS

TASK NO.	TASK	TASK REF	TROUBLESHOOTING REF (TABLE)
2.	PTO to PTO Belts Shaft – Universal Joints Maintenance (Continued):		
	D. Assembly.	4-9D	
	E. Installation.	4-9E	
3.	Universal Joints Maintenance:	4-10	4-1
	A. Removal.	4-10A	
	B. Disassembly.	4-10B	
	C. Cleaning and inspection.	4-10C	
	D. Assembly.	4-10D	
	E. Installation.	4-10E	
4.	PTO Belts Maintenance:	4-11	4-1
	A. Removal.	4-11A	
	B. Installation.	4-11B	
	C. Adjustment.	4-11C	
5.	Main Shaft Maintenance:	4-12	4-1
	A. Removal.	4-12A	
	B. Disassembly.	4-12B	
	C. Cleaning and inspection.	4-12C	
	D. Assembly.	4-12D	
	E. Installation.	4-12E	
	F. Checking alinement.	4-12F	
6.	PTO Belts Shaft Assemblies Maintenance:	4-13	4-1
	A. Disassembly.	4-13A	
	B. Cleaning and inspection.	4-13B	
	C. Assembly.	4-13C	

4-7. MAIN DRIVE ASSEMBLY MAINTENANCE TASK SUMMARY (Continued).

LIST OF TASKS

TASK NO.	TASK	TASK REF	TROUBLESHOOTING REF (TABLE)
7.	Reversing Gear Box Output Shaft Maintenance:	4-14	4-1
	A. Removal.	4-14A	
	B. Disassembly.	4-14B	
	C. Cleaning and inspection.	4-14C	
	D. Assembly.	4-14D	
	E. Installation.	4-14E	
8.	Rear Incline Shaft Maintenance:	4-15	4-1
	A. Removal.	4-15A	
	B. Disassembly.	4-15B	
	C. Cleaning and inspection.	4-15C	
	D. Assembly.	4-15D	
	E. Installation.	4-15E	
9.	Water Pump Belts Maintenance:	4-16	4-1
	A. Loosening.	4-16A	
	B. Removal.	4-16B	
	C. Installation.	4-16C	
	D. Adjustment.	4-16D	
10.	Hydraulic Pump Belts Maintenance:	4-17	4-1
	A. Loosening.	4-17A	
	B. Removal.	4-17B	
	C. Installation.	4-17C	
	D. Adjustment.	4-17D	
11.	Main Clutch Adjustment:	4-18	4-1
	Clutch adjustment.		

4-7. MAIN DRIVE ASSEMBLY MAINTENANCE TASK SUMMARY (Continued).

LIST OF TASKS

TASK NO.	TASK	TASK REF	TROUBLESHOOTING REF (TABLE)
12.	Angle Drive Gear Box Maintenance:	4-19	4-1
	A. Removal.	4-19A	
	B. Installation.	4-19B	
	C. Operational check.	4-19C	

POWER TRAIN.

4-8. REVERSING GEAR BOX MAINTENANCE.

THIS TASK COVERS: (APPROXIMATE TIME REQUIRED FOLLOWS TASK DESCRIPTION.)

a. Removal.	(15)
b. Installation.	(25)
c. Checking Oil Level.	(5)
	45 Minutes Total.

INITIAL SETUP

APPLICABLE CONFIGURATIONS

M919.

EQUIPMENT CONDITION PARAGRAPH	CONDITION DESCRIPTION
None.	None.

TEST EQUIPMENT

None.

SPECIAL TOOLS

None.

MATERIALS/PARTS (P/N)

Lubricant – (Refer to Appendix C).

PERSONNEL REQUIRED

One (MOS-62B20).

SPECIAL ENVIRONMENTAL CONDITIONS

Vehicle Parked on Level Ground.

REFERENCES (TM)

LO 5-3895-372-12.
TM 9-2320-273-10.

GENERAL SAFETY INSTRUCTIONS

Engine off.
Transmission in Neutral.
Park Brake set.

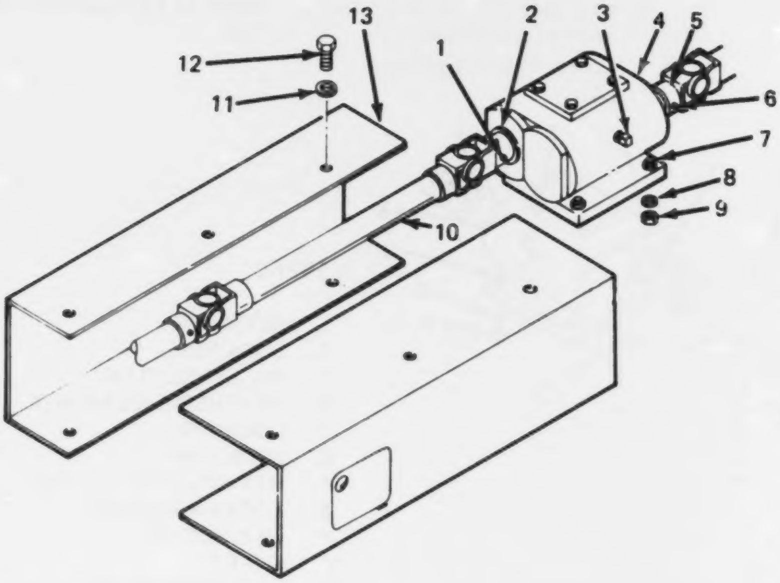
TROUBLESHOOTING REFERENCES

Table 4-1.

POWER TRAIN.

4-8. REVERSING GEAR BOX MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS
A. REMOVAL.		
1. Five capscrews (12) and five lockwashers (11).	Remove.	
2. Cover (13).	Remove.	
3. Lockwires (2) and (5).	Remove.	
4. Setscrews (1) and (6).	Loosen.	
5. Shaft (10).	Slide forward off of reversing box shaft.	
6. Four hex bolts (7), hex nuts (9), and lockwashers (8).	Remove.	
7. Reversing gear box (4).	Remove.	



LEGEND:

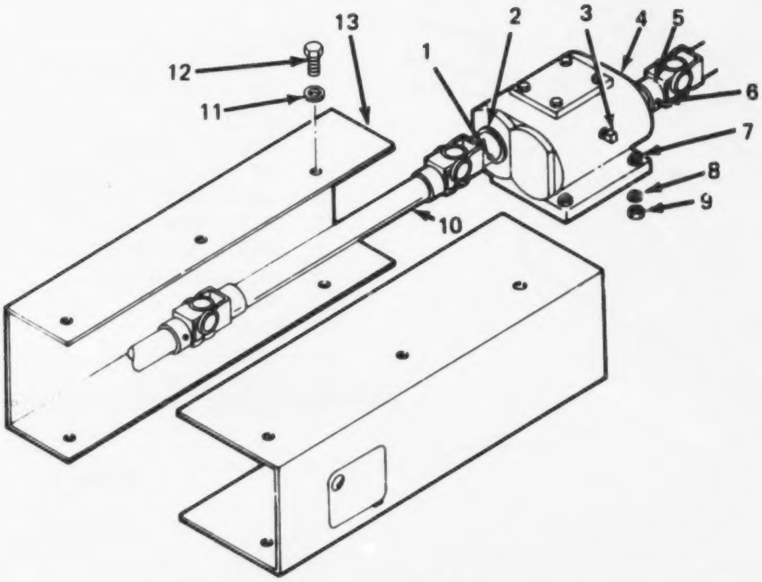
1. SETSCREW
2. LOCKWIRE
3. OIL LEVEL PLUG
4. REVERSING GEAR BOX
5. LOCKWIRE
6. SETSCREW
7. HEX BOLT (4)
8. LOCKWASHER (4)
9. HEX NUT (4)
10. SHAFT
11. LOCKWASHER (8)
12. CAPSCREW (5)
13. COVER

TA 076170

POWER TRAIN.

4-8. REVERSING GEAR BOX MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS
B. INSTALLATION.		
8. Reversing gear box (4).	Set in place.	
9. Four hex bolts (7), hex nuts (9), and lockwashers (8).	Install and tighten.	
10. Shaft (10).	Slide onto reversing gear box shafts.	
11. Setscrews (1) and (6).	Tighten.	
12. Lockwires (2) and (5).	Install.	
13. Cover (13).	a. Place on vehicle. b. Install capscrews (12) and lockwashers (11). c. Tighten.	
C. CHECKING OIL LEVEL.		
14. Oil level plug (3).	a. Remove. b. Check that oil in reversing gear box (4) is up to level of plug hole. c. Screw in and tighten plug.	Add oil if necessary. (refer to LO 5-3895-372-12).



LEGEND:

1. SETSCREW
2. LOCKWIRE
3. OIL LEVEL PLUG
4. REVERSING GEAR BOX
5. LOCKWIRE
6. SETSCREW
7. HEX BOLT (4)
8. LOCKWASHER (4)
9. HEX NUT (4)
10. SHAFT
11. LOCKWASHER (8)
12. CAPSCREW (5)
13. COVER

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POWER TRAIN.

4-9. PTO TO PTO BELTS SHAFT – UNIVERSAL JOINTS MAINTENANCE.

THIS TASK COVERS: (APPROXIMATE TIME REQUIRED FOLLOWS TASK DESCRIPTION.)

a. Removal.	(30)
b. Disassembly.	(20).
c. Cleaning and Inspection.	(20)
d. Assembly.	(20)
e. Installation.	(30)
	120 Minutes Total.

INITIAL SETUP

EQUIPMENT CONDITION PARAGRAPH	CONDITION DESCRIPTION
None.	None.

APPLICABLE CONFIGURATIONS

M919.

TEST EQUIPMENT

None.

SPECIAL TOOLS

None.

MATERIALS/PARTS (P/N)

SD-2 Dry Cleaning Solvent (Refer to Appendix C).
Universal Joint Kits, 2675 X 28188 (50663).
GAA – (Refer to Appendix C).
Lockwire (Refer to Appendix C).

PERSONNEL REQUIRED

One (MOS-62B20).

REFERENCES (TM)

LO 5-3895-372-12.
TM 5-3895-372-20P
TM 9-2320-273-10.

TROUBLESHOOTING REFERENCES

Table 4-1.

SPECIAL ENVIRONMENTAL CONDITIONS

Vehicle Parked on Level Ground.

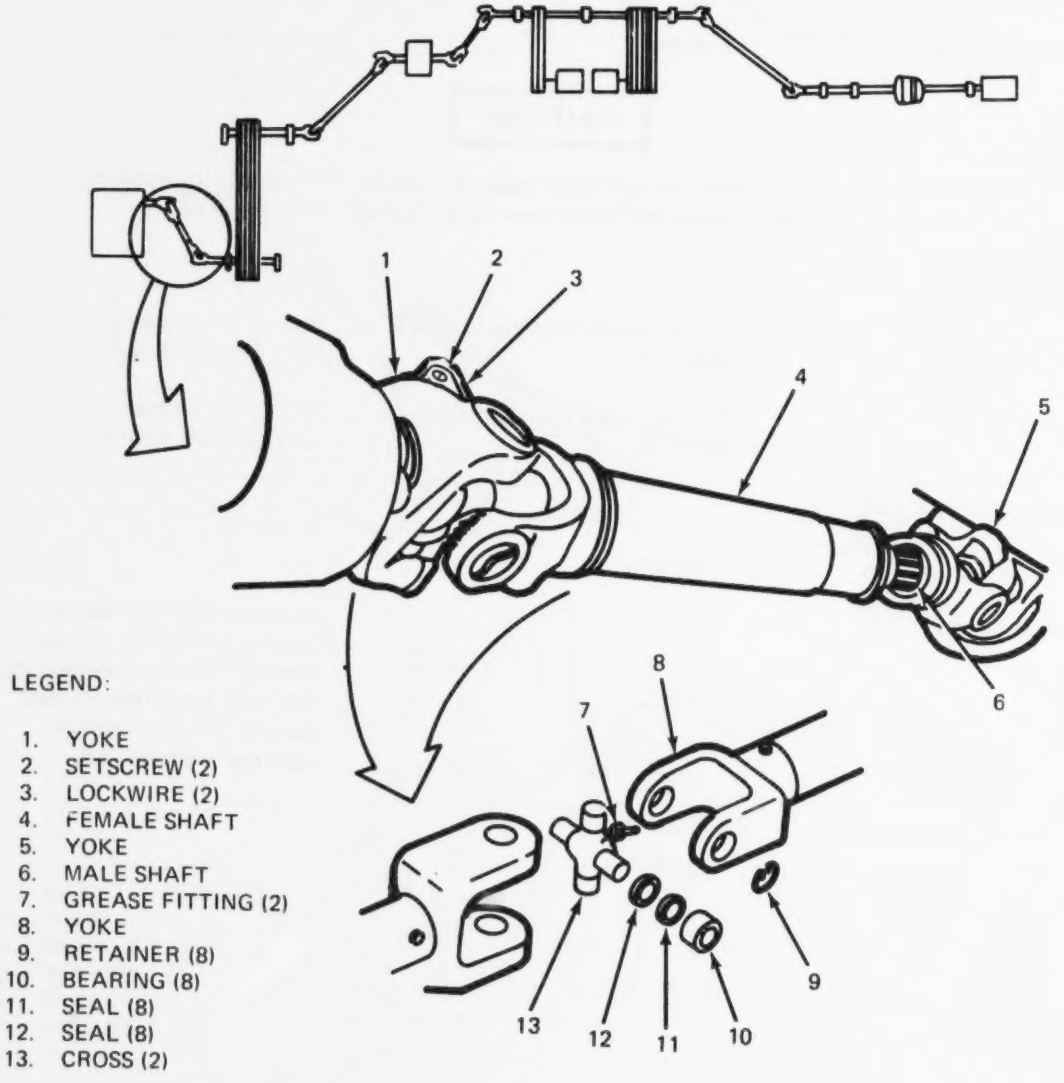
GENERAL SAFETY INSTRUCTIONS

Engine Off.
Transmission in Neutral.
Parking Brake Set.

POWER TRAIN.

4-9. PTO TO PTO BELTS SHAFT - UNIVERSAL JOINTS MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS



LEGEND:

1. YOKE
2. SETSCREW (2)
3. LOCKWIRE (2)
4. FEMALE SHAFT
5. YOKE
6. MALE SHAFT
7. GREASE FITTING (2)
8. YOKE
9. RETAINER (8)
10. BEARING (8)
11. SEAL (8)
12. SEAL (8)
13. CROSS (2)

TA 076172

4-9. PTO TO PTO BELTS SHAFT – UNIVERSAL JOINTS MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS
A. REMOVAL.		
1. Two lockwires (3).	Cut and remove.	One on each end of shaft.
2. Two setscrews (2).	Loosen.	One on each yoke.

CAUTION

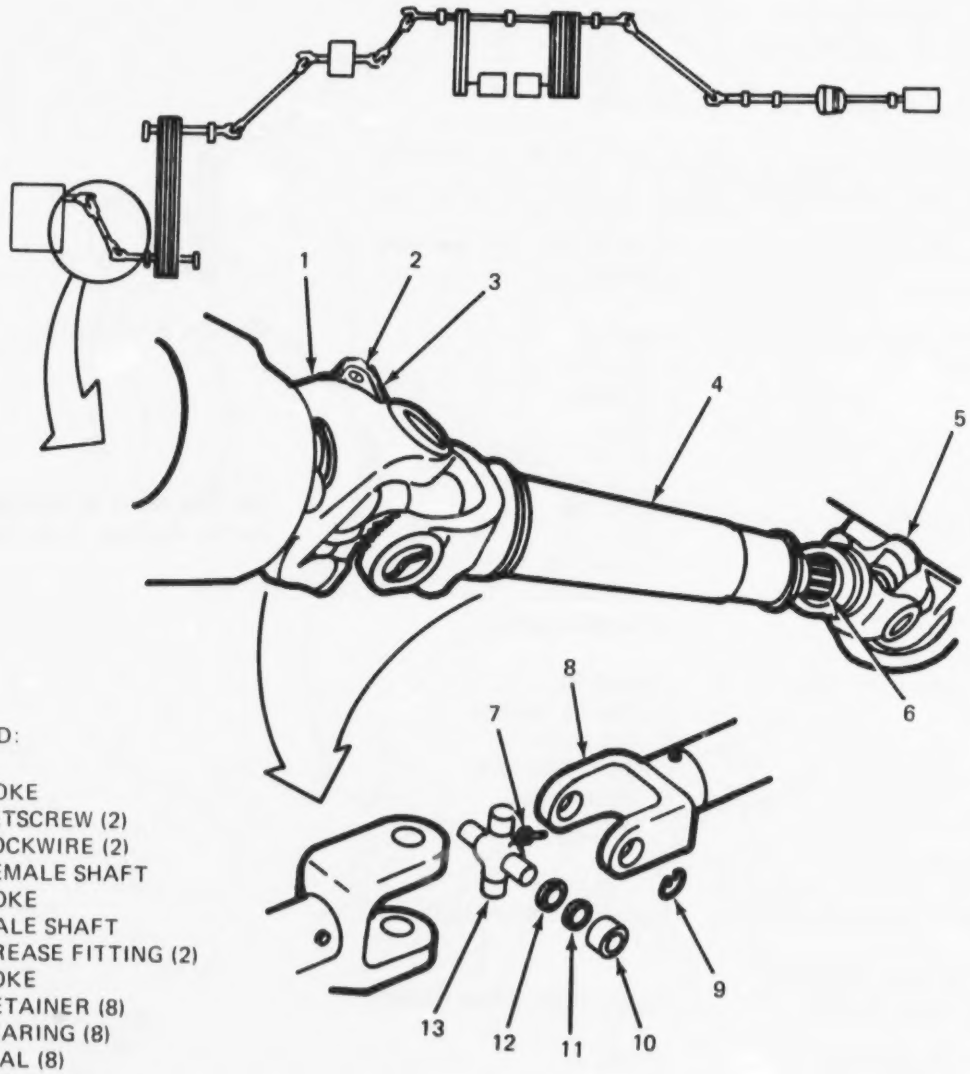
Before removing female shaft (4) and male shaft (6), punch mark shafts for reassembly alinement. Damage to universal joints may occur if shafts are not alined.

LOCATION/ITEM	ACTION	REMARKS
3. Yoke (1).	Remove with attached female shaft (4).	It may be necessary to tap off PTO shaft with hammer.
4. Yoke (5).	Remove with attached male shaft (6).	It may be necessary to tap off bearing shaft with hammer.
B. DISASSEMBLY.		
5. Eight retainers (9).	Remove.	
6. Eight bearings (10).	Remove.	Remove the first bearing by tapping gently on the opposite bearing. Remove bearing and tap cross back toward first bearing. Repeat until all bearings are removed.
7. Yoke (1) and yoke (8).	Separate.	

POWER TRAIN.

4-9. PTO TO PTO BELTS SHAFT - UNIVERSAL JOINTS MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS



LEGEND:

1. YOKE
2. SETSCREW (2)
3. LOCKWIRE (2)
4. FEMALE SHAFT
5. YOKE
6. MALE SHAFT
7. GREASE FITTING (2)
8. YOKE
9. RETAINER (8)
10. BEARING (8)
11. SEAL (8)
12. SEAL (8)
13. CROSS (2)

TA 076173

POWER TRAIN.

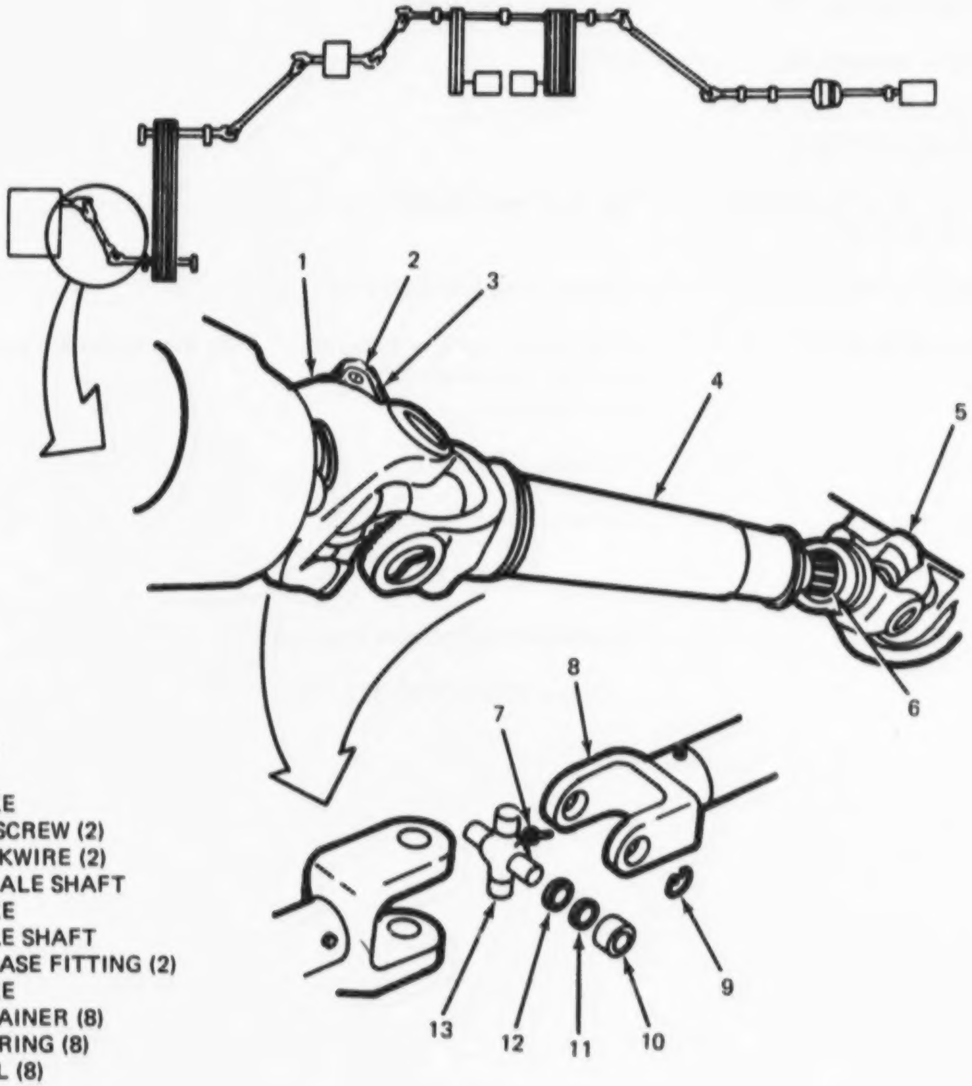
4-9. PTO TO PTO BELTS SHAFT - UNIVERSAL JOINTS MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS
B. DISASSEMBLY (Continued).		
8. Two crosses (13) and eight seals (11) and (12).	Remove.	
9. Two grease fittings (7).	Remove.	
C. CLEANING AND INSPECTION.		
10. All parts.	Clean in SD-2 dry cleaning solvent.	
11. Three yokes (5), (1), and (8).	Inspect for: a. Cracks. b. Breaks. c. Wear. d. Deformities.	Replace if necessary.
12. Two crosses (13).	Inspect for: a. Nicks. b. Burrs. c. Scratches. d. Needle marks.	Use fine stone to remove light marks. Replace if necessary.
13. Eight bearings (10).	Inspect for: a. Missing needles. b. Flat spots. c. Nicked surface. d. Deformities.	
D. ASSEMBLY.		
14. Sixteen seals (11) and (12).	Install on crosses (13).	
15. Two crosses (13) and eight bearings (10).	Apply clean grease (GAA).	
16. Two crosses (13).	Install.	

POWER TRAIN.

4-9. PTO TO PTO BELTS SHAFT - UNIVERSAL JOINTS MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS



LEGEND:

1. YOKE
2. SETSCREW (2)
3. LOCKWIRE (2)
4. FEMALE SHAFT
5. YOKE
6. MALE SHAFT
7. GREASE FITTING (2)
8. YOKE
9. RETAINER (8)
10. BEARING (8)
11. SEAL (8)
12. SEAL (8)
13. CROSS (2)

TA 076174

POWER TRAIN.

4-9. PTO TO PTO BELTS SHAFT – UNIVERSAL JOINTS MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS
D. ASSEMBLY (Continued).		
17. Eight bearings (10).	Tap gently into place.	
18. Eight retainers (9).	Install.	
E. INSTALLATION.		
19. Yoke (5) with attached male shaft (6).	Tap onto bearing shaft.	
20. Setscrew (2).	Tighten. Install lockwire (3).	
21. Female shaft (4).	Aline punch mark with punch mark on male shaft (6) and slide together.	Be sure yokes are in alinement.
22. Yoke (1).	Tap onto PTO shaft.	
23. Setscrew (2).	Tighten. Install lockwire (3).	

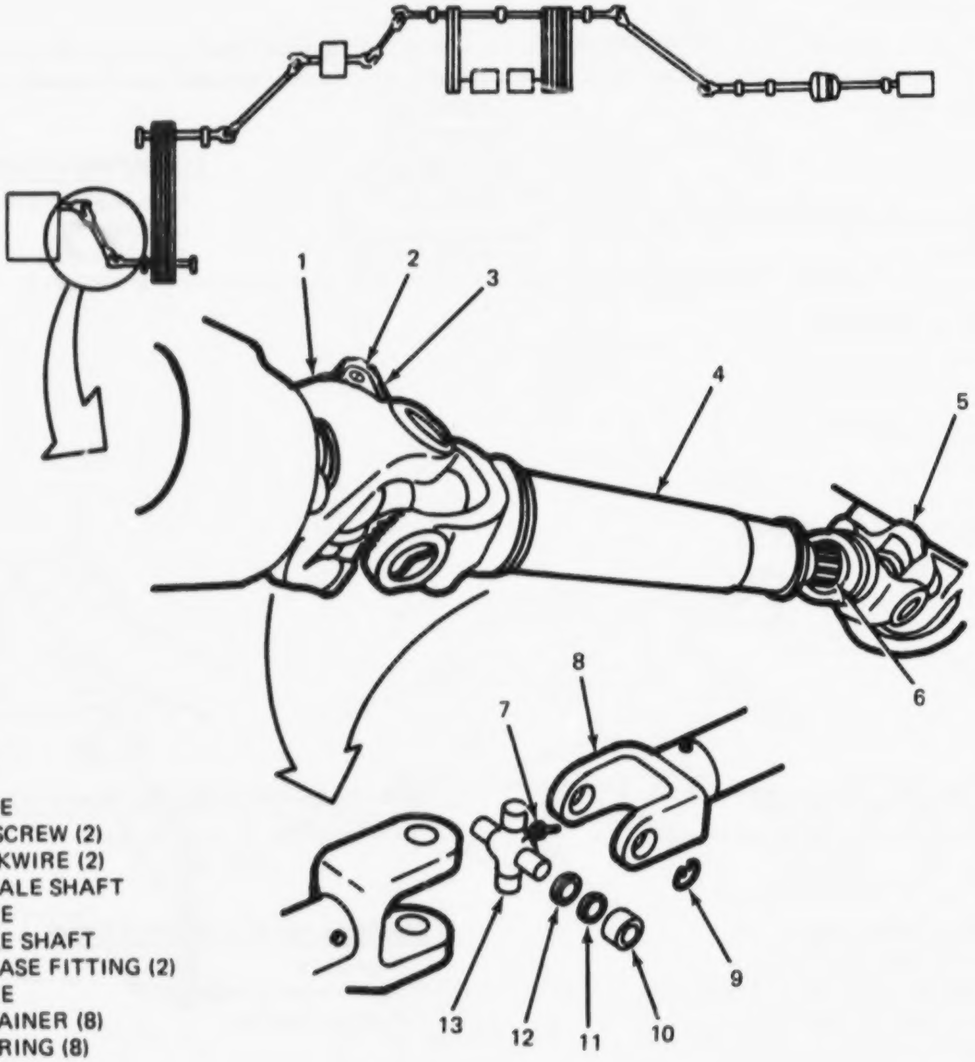
NOTE

Follow-on maintenance required:

Grease (LO 5-3895-372-12).

4-9. PTO TO PTO BELTS SHAFT - UNIVERSAL JOINTS MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS



LEGEND:

1. YOKE
2. SETSCREW (2)
3. LOCKWIRE (2)
4. FEMALE SHAFT
5. YOKE
6. MALE SHAFT
7. GREASE FITTING (2)
8. YOKE
9. RETAINER (8)
10. BEARING (8)
11. SEAL (8)
12. SEAL (8)
13. CROSS (2)

TA 076175

POWER TRAIN.

4-10. UNIVERSAL JOINTS MAINTENANCE.

THIS TASK COVERS: (APPROXIMATE TIME REQUIRED FOLLOWS TASK DESCRIPTION.)

a. Removal.	(25)
b. Disassembly.	(15)
c. Cleaning and Inspection.	(15)
d. Assembly.	(20)
e. Installation.	(30)
	105 Minutes Total.

INITIAL SETUP

EQUIPMENT CONDITION PARAGRAPH	CONDITION DESCRIPTION
4-8A.	Reversing Gear Box Removed (as Needed).
4-16A & 4-17A.	Belts Loosened.

APPLICABLE CONFIGURATIONS

M919.

TEST EQUIPMENT

None.

SPECIAL TOOLS

None.

MATERIALS/PARTS (P/N)

GAA (Refer to Appendix C).
Universal Joint Kit, 1875X (50663).
Lockwire (Refer to Appendix C).

PERSONNEL REQUIRED

One (MOS-62B20).

REFERENCES (TM)

LO 5-3895-372-12.
TM 5-3895-372-10.
TM 5-3895-372-20P.
TM 9-2320-273-10.

TROUBLESHOOTING REFERENCES

Table 4-1.

SPECIAL ENVIRONMENTAL CONDITIONS

Vehicle Parked on Level Ground.

GENERAL SAFETY INSTRUCTIONS

Engine Off.
Transmission in Neutral.
Parking Brake Set.

POWER TRAIN.

4-10. UNIVERSAL JOINTS MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS

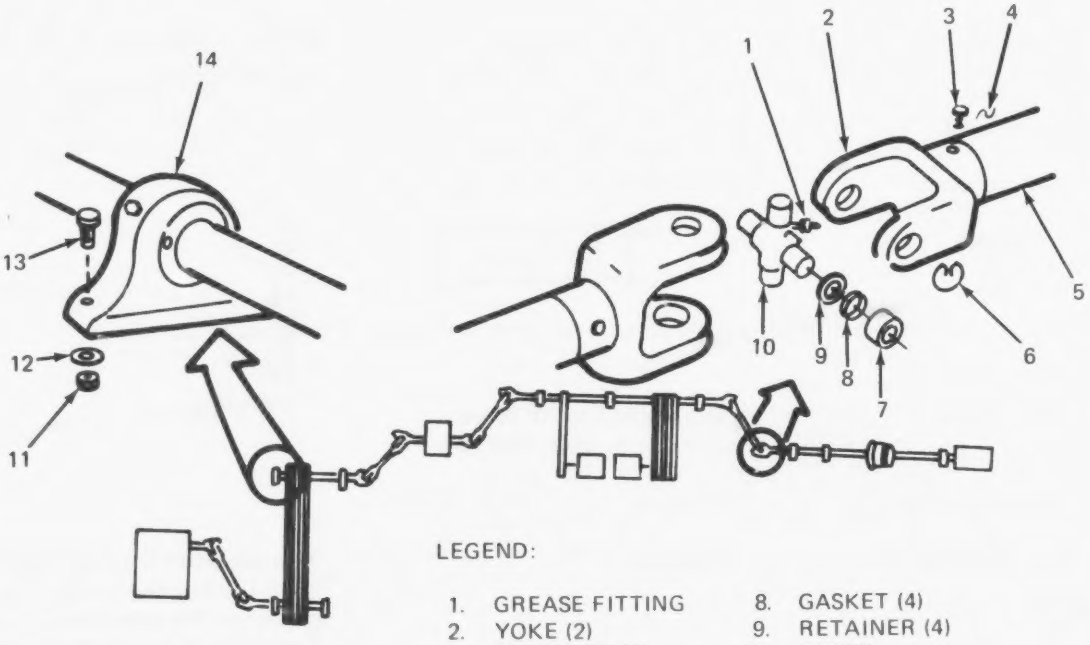
A. REMOVAL.

NOTE

The illustration shows all bearings (14) and universal joints of the power train. Use it to decide which bearings you will need to loosen to allow slack in the drive system.

CAUTION

Before removing U-joints, be sure that shafts (5) and yokes (2) are punch marked.



LEGEND:

1. GREASE FITTING
2. YOKE (2)
3. SETSCREW (2)
4. SETSCREW LOCKWIRE (2)
5. SHAFT
6. SNAP RING (4)
7. BEARING (4)
8. GASKET (4)
9. RETAINER (4)
10. CROSS
11. HEX NUT (2)
12. WASHER (2)
13. HEX BOLT (2)
14. BEARING

TA 076176

4-10. UNIVERSAL JOINTS MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS
A. REMOVAL (Continued).		
1. Two hex bolts (13), hex nuts (11), and washers (12).	Remove as needed.	
2. Two setscrew lockwires (4).	Remove.	
3. Two yoke collar setscrews (3).	Loosen.	Two on each U-joint.

NOTE

The two U-joints at the rear of the vehicle have roll pins. Tap out these roll pins with a drift and hammer.

LOCATION/ITEM	ACTION	REMARKS
4. Shafts (5) and universal joint.	Slide apart. Remove universal joint assembly.	It may be necessary to tap loose with a hammer.
B. DISASSEMBLY.		
5. Grease fitting (1).	Remove from cross (10).	

CAUTION

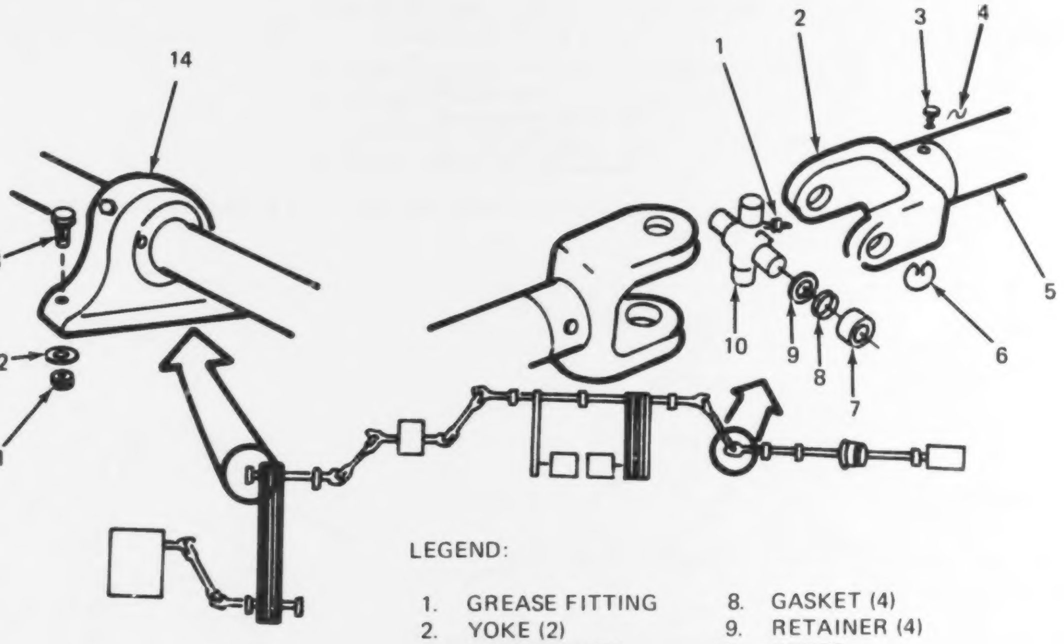
Tap bearings only hard enough to break them away from snap rings.

LOCATION/ITEM	ACTION	REMARKS
6. Four bearings (7).	Use a soft drift to break away from snap rings (6).	
7. Four snap rings (6).	Remove.	
8. Four bearings (7).	Remove.	You can push the first bearing out of each yoke by tapping gently on the opposite bearing. Tap cross end to push out second bearing.
9. Four gaskets (8) and retainers (9).	Remove.	
10. Cross (10) and two yokes (2).	Separate.	

POWER TRAIN.

4-10. UNIVERSAL JOINTS MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS



LEGEND:

1. GREASE FITTING
2. YOKE (2)
3. SETSCREW (2)
4. SETSCREW LOCKWIRE (2)
5. SHAFT
6. SNAP RING (4)
7. BEARING (4)
8. GASKET (4)
9. RETAINER (4)
10. CROSS
11. HEX NUT (2)
12. WASHER (2)
13. HEX BOLT (2)
14. BEARING

TA 076177

4-10. UNIVERSAL JOINTS MAINTENANCE (Continued).

C. CLEANING AND INSPECTION.

WARNING

Compressed air used for cleaning purposes will not exceed 30 psi. Use only with effective chip guarding and personal potective equipment (goggles/shield, gloves, etc.).

LOCATION	ACTION	REMARKS
11. Yokes (2).	a. Clean with SD-2 dry cleaning solvent. b. Dry with compressed air.	

CAUTION

Bearings (7) and cross (10) should be replaced as a set. If the cross or any bearing is damaged, replace the set.

LOCATION	ACTION	REMARKS
12. Yokes (2).	Inspect for: a. Cracks. b. Wear. c. Nicks. d. Burrs.	

D. ASSEMBLY.

LOCATION	ACTION	REMARKS
13. Four new retainers (9) and gaskets (8).	Place on cross (10).	
14. Cross (10).	Place between two yokes (2).	
15. Four bearings (7).	Use rawhide mallet to tap bearings into yokes.	
16. Four snap rings (6).	Set in grooves of yoke (2).	
17. Grease fitting (1).	Install in cross (10).	

E. INSTALLATION.

LOCATION	ACTION	REMARKS
18. Two yokes (2).	a. Press onto shaft (5). b. Aline punch marks.	
19. Two setscrews (3).	Tighten firmly, then install two setscrew lockwires (4).	Check that shafts do not slip in joints.

POWER TRAIN.

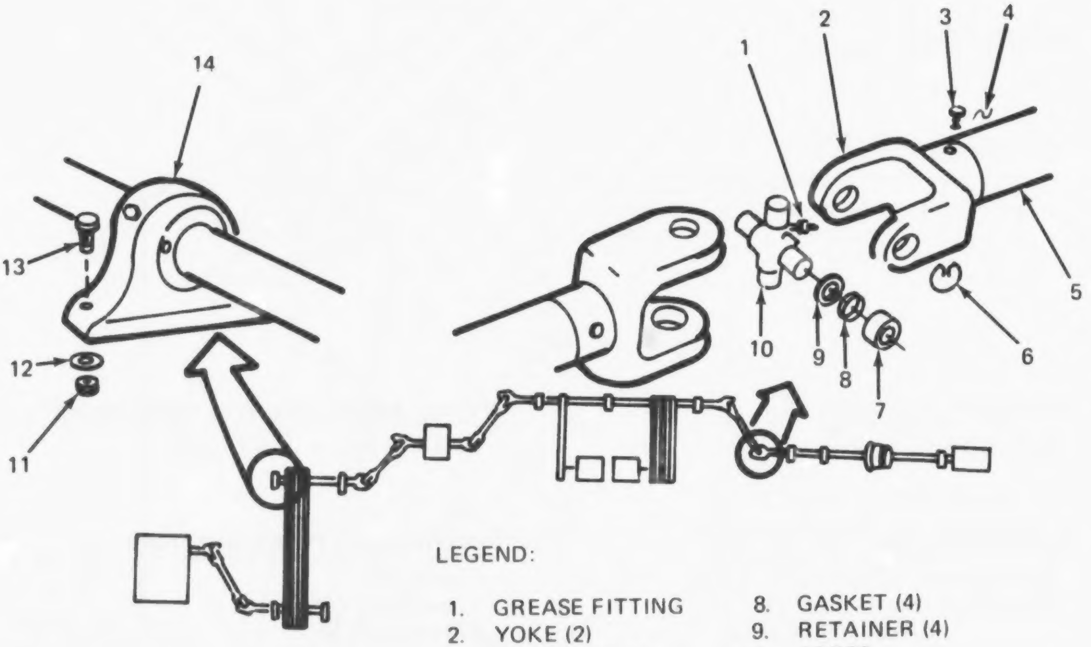
4-10. UNIVERSAL JOINTS MAINTENANCE (Continued).

LOCATION	ACTION	REMARKS
E. INSTALLATION (Continued).		
20. Hex bolts (13), washers (12), and hex nuts (11).	Install and tighten.	

NOTE

Follow-on maintenance required, as applicable:

a. Reversing gear box installed (para 4-8B).
b. Adjust V-belts (para 4-16D or 4-17D).
c. Lubricate (refer to LO 5-3895-372-12).
d. Check operation (refer to TM 5-3895-372-10).



LEGEND:

1. GREASE FITTING
2. YOKE (2)
3. SETSCREW (2)
4. SETSCREW LOCKWIRE (2)
5. SHAFT
6. SNAP RING (4)
7. BEARING (4)
8. GASKET (4)
9. RETAINER (4)
10. CROSS
11. HEX NUT (2)
12. WASHER (2)
13. HEX BOLT (2)
14. BEARING

TA 076178

POWER TRAIN.

4-11. PTO BELTS MAINTENANCE.

THIS TASK COVERS: (APPROXIMATE TIME REQUIRED FOLLOWS TASK DESCRIPTION.)

a. Removal.	(45)
b. Installation.	(60)
c. Adjustment.	(10)
	115 Minutes Total.

INITIAL SETUP

APPLICABLE CONFIGURATIONS

M919.

TEST EQUIPMENT

None.

SPECIAL TOOLS

None.

MATERIALS/PARTS (P/N)

V-Belts, Drive, NP5032-120 (50663).
Lockwire (Refer to Appendix C).

EQUIPMENT CONDITION PARAGRAPH	CONDITION DESCRIPTION
None.	None.

PERSONNEL REQUIRED

One (MOS-62B20).

REFERENCES (TM)

TM 9-2320-273-10.
TM 5-3895-372-20P.

TROUBLESHOOTING REFERENCES

Table 4-1.

SPECIAL ENVIRONMENTAL CONDITIONS

Vehicle Parked on Level Ground.

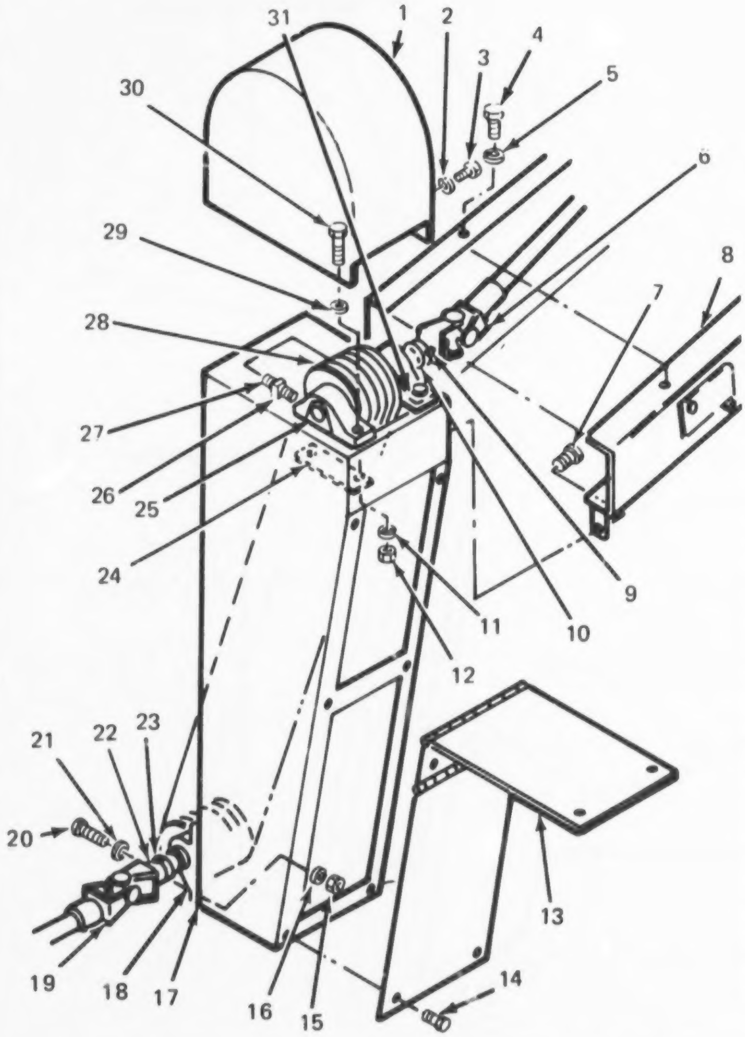
GENERAL SAFETY INSTRUCTIONS

Engine Off.
Transmission in Neutral.
Parking Brake Set.

POWER TRAIN.

4-11. PTO BELTS MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS
A. REMOVAL.		
1. Four hex bolts (3) and lockwashers (2).	Remove.	
2. Hex bolt (7).	Remove.	
3. Cover (1).	Remove.	
4. Six hex bolts (4) and lockwashers (5).	Remove.	



LEGEND:

1. COVER
2. LOCKWASHER (4)
3. HEX BOLT (4)
4. HEX BOLT (6)
5. LOCKWASHER (6)
6. UPPER YOKE ASSEMBLY
7. HEX BOLT
8. COVER
9. SETSCREW
10. LOCKWIRE
11. LOCKWASHER (4)
12. HEX NUT (4)
13. ACCESS COVER (2)
14. HEX BOLT (6)
15. HEX NUT (4)
16. LOCKWASHER (4)
17. LOWER BEARING ASSEMBLY
18. PLATE
19. LOWER YOKE ASSEMBLY
20. HEX BOLT (4)
21. FLATWASHER (4)
22. LOCKWIRE
23. SETSCREW
24. BOTTOM PLATE
25. UPPER BEARING ASSEMBLY
26. HEX LOCKNUT (2)
27. ADJUSTING SCREW (2)
28. V-BELTS (5)
29. FLATWASHER (4)
30. HEX BOLTS (4)
31. UPPER ASSEMBLY AND PLATE

TA 076179

POWER TRAIN.

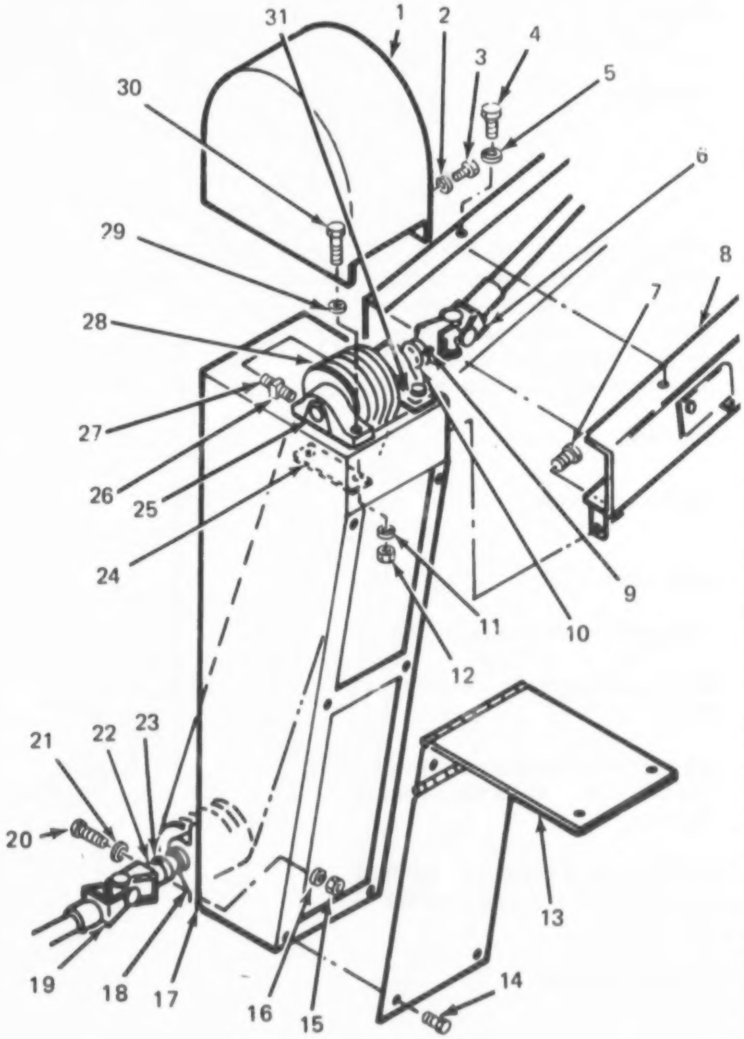
4-11. PTO BELTS MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS
A. REMOVAL (Continued).		
5. Cover (8).	Remove.	
6. Six hex bolts (14).	Remove.	
7. Access covers (13).	Remove.	
8. Lockwire (10).	Cut and remove.	
9. Setscrew (9).	Loosen.	
10. Upper yoke assembly (6).	Remove.	Tap off with hammer.
11. Four hex nuts (12), lockwashers (11), and bottom plate (24).	Remove.	
12. Four hex bolts (30) and and flatwashers (29).	Remove.	
13. Two hex locknuts (26).	Loosen.	
14. Adjusting screws (27).	Loosen evenly.	
15. Lockwire (22).	Cut and remove.	
16. Setscrew (23).	Loosen.	
17. Lower yoke assembly (19).	Remove.	Tap off with hammer.
18. Four hex nuts (15) and lockwashers (16).	Remove.	
19. Four hex bolts (20) and flatwashers (21).	Remove.	
20. Two lower bearing assemblies (17) and plate (18).	Remove.	
21. Two upper bearing assemblies (25) and bottom plate (24).	Remove.	
22. V-belts (28).	Remove and discard.	
B. INSTALLATION.		
23. Two upper bearing assemblies (25) and plate (24).	Set in place.	

POWER TRAIN.

4-11. PTO BELTS MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS
B. INSTALLATION (Continued).		
24. Five V-belts (28).	Place over upper bearing assembly (25).	
25. Two lower bearing assemblies (17).	Place in V-belts (28).	
26. Two lower bearing assemblies (17) and plate (18).	Line up and install four hex bolts (20) and flatwashers (21).	



LEGEND:

1. COVER
2. LOCKWASHER (4)
3. HEX BOLT (4)
4. HEX BOLT (6)
5. LOCKWASHER (6)
6. UPPER YOKE ASSEMBLY
7. HEX BOLT
8. COVER
9. SETSCREW
10. LOCKWIRE
11. LOCKWASHER (4)
12. HEX NUT (4)
13. ACCESS COVER (2)
14. HEX BOLT (6)
15. HEX NUT (4)
16. LOCKWASHER (4)
17. LOWER BEARING ASSEMBLY
18. PLATE
19. LOWER YOKE ASSEMBLY
20. HEX BOLT (4)
21. FLATWASHER (4)
22. LOCKWIRE
23. SETSCREW
24. BOTTOM PLATE
25. UPPER BEARING ASSEMBLY
26. HEX LOCKNUT (2)
27. ADJUSTING SCREW (2)
28. V-BELTS (5)
29. FLATWASHER (4)
30. HEX BOLTS (4)
31. UPPER ASSEMBLY AND PLATE

TA 076180

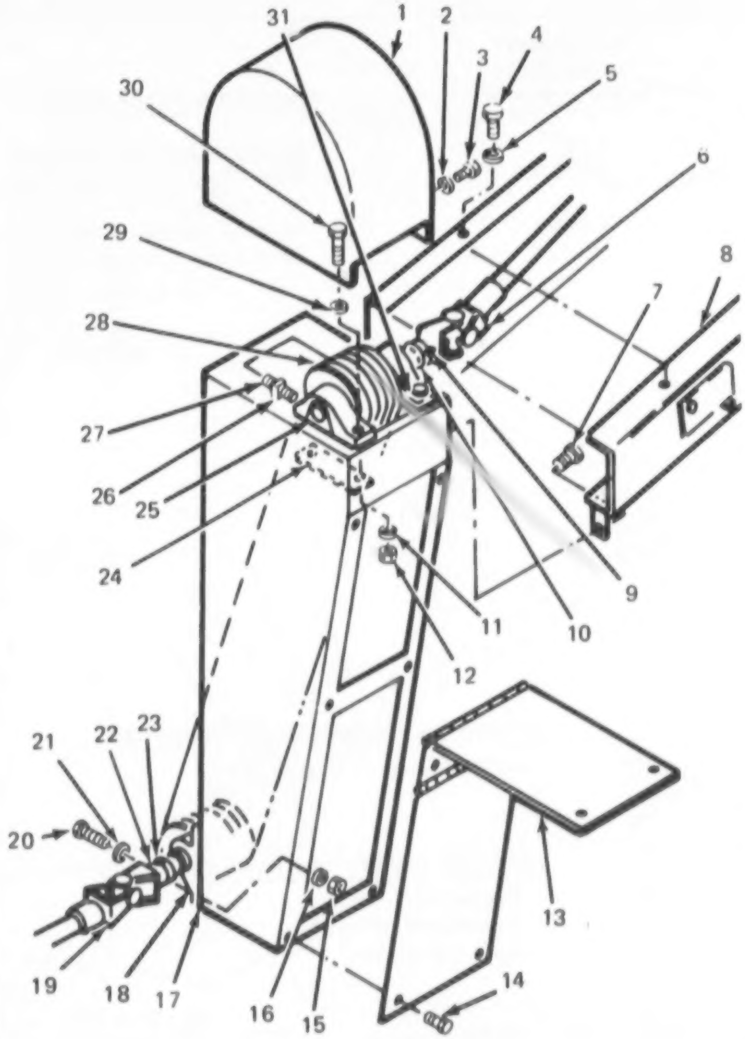
4-11. PTO BELTS MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS
B. INSTALLATION (Continued).		
27. Four hex nuts (15). and lockwashers (16).	Install. Tighten securely.	
28. Lower yoke assembly (19).		
29. Setscrew (23).	Tighten and install lockwire (22).	
30. Bottom plate (24).	Place under upper pulley assembly and aline holes.	
31. Four hex bolts (30) and flat washers (29).	Install.	
32. Four hex nuts (12) lockwashers (11), and bottom plate (24).	Install	
C. ADJUSTMENT.		
33. Adjusting screws (27).	Tighten evenly until 1/2 in. deflection occurs at center of V-belts, while applying approximately six pounds pressure at center. Use straight edge and ruler to determine this reading.	
34. Locknuts (26).	Tighten.	
35. Four hex nuts (12). and hex bolts (30).	Tighten securely.	
36. Upper yoke assembly (6).	Slide onto shaft.	
37. Setscrew (9).	Tighten. Install lockwire (10).	
38. Access covers (13).	Set in place and secure with six hex bolts (14). Tighten.	
39. Cover (8).	Set in place and secure with six hex bolts (4) and lockwashers (5). Tighten.	
40. Cover (1).	Set in place and secure with four hex bolts (3) and lockwashers (2). Tighten.	
41. Hex bolt (7).	Tighten securely.	

POWER TRAIN.

4-11. PTO BELTS MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS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LEGEND:

1. COVER
2. LOCKWASHER (4)
3. HEX BOLT (4)
4. HEX BOLT (6)
5. LOCKWASHER (6)
6. UPPER YOKE ASSEMBLY
7. HEX BOLT
8. COVER
9. SETSCREW
10. LOCKWIRE
11. LOCKWASHER (4)
12. HEX NUT (4)
13. ACCESS COVER (2)
14. HEX BOLT (6)
15. HEX NUT (4)
16. LOCKWASHER (4)
17. LOWER BEARING ASSEMBLY
18. PLATE
19. LOWER YOKE ASSEMBLY
20. HEX BOLT (4)
21. FLATWASHER (4)
22. LOCKWIRE
23. SETSCREW
24. BOTTOM PLATE
25. UPPER BEARING ASSEMBLY
26. HEX LOCKNUT (2)
27. ADJUSTING SCREW (2)
28. V-BELTS (5)
29. FLATWASHER (4)
30. HEX BOLTS (4)
31. UPPER ASSEMBLY AND PLATE

TA 076181

POWER TRAIN.

4-12. MAIN SHAFT MAINTENANCE.

THIS TASK COVERS: (APPROXIMATE TIME REQUIRED FOLLOWS TASK DESCRIPTION.)

a. Removal.	(10)
b. Disassembly.	(30)
c. Cleaning and Inspection.	(25)
d. Assembly.	(35)
e. Installation.	(10)
f. Checking Alinement.	(5)
	115 Minutes Total.

INITIAL SETUP

EQUIPMENT CONDITION PARAGRAPH	CONDITION DESCRIPTION
4-8A.	Reversing Gear Box Removed.
4-16B & 4-17B.	Water Pump & Hydraulic Pump Belts Removed.
4-10A.	Universal Joint Removed (as Needed).

APPLICABLE CONFIGURATIONS

M919.

TEST EQUIPMENT

None.

SPECIAL TOOLS

None.

MATERIALS/PARTS (P/N)

Oil (Refer to Appendix C).

PERSONNEL REQUIRED

Two (MOS-62B20).

REFERENCES (TM)

LO 5-3895-372-12.
TM 9-2320-273-10.

TROUBLESHOOTING REFERENCES

Table 4-1.

SPECIAL ENVIRONMENTAL CONDITIONS

Vehicle Parked on Level Ground.

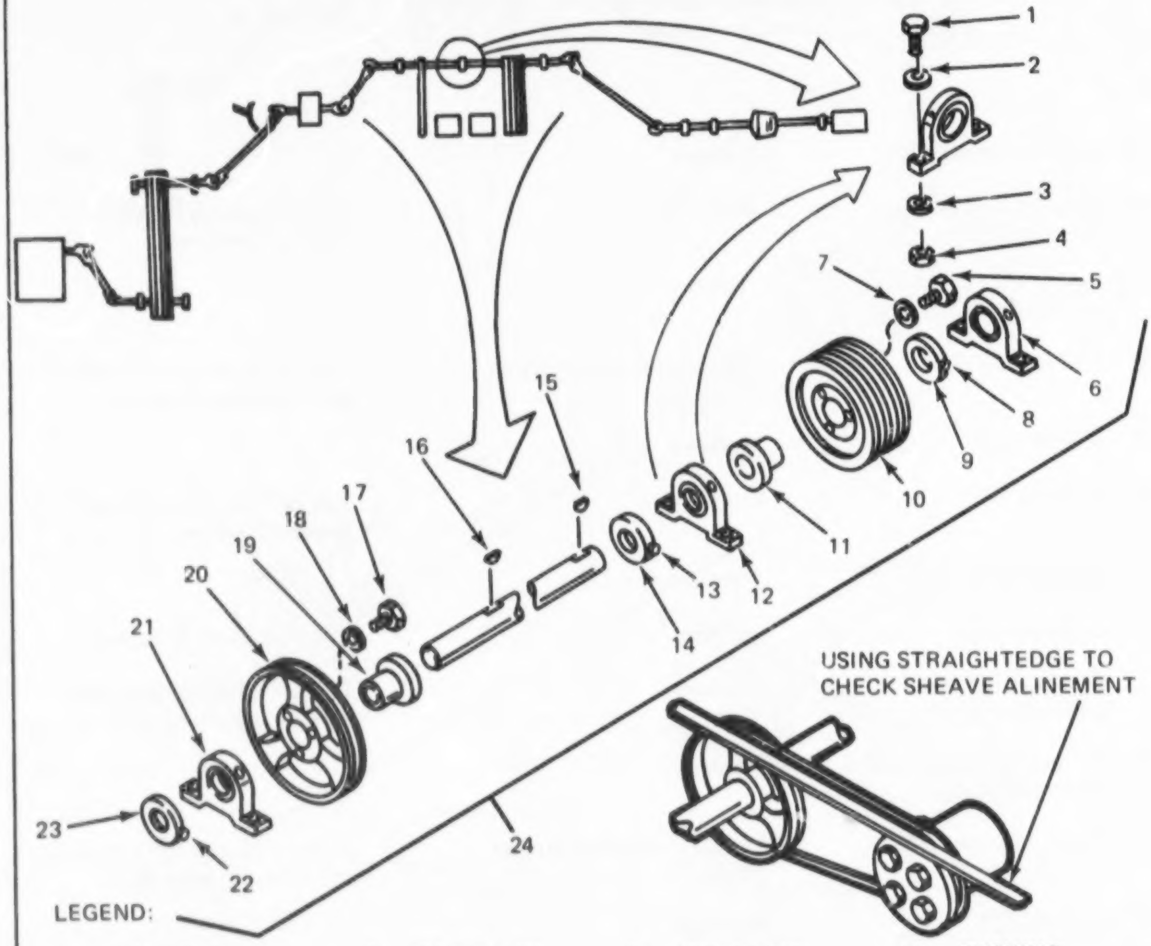
GENERAL SAFETY INSTRUCTIONS

Engine Off.
Transmission in Neutral.
Parking Brake Set.

POWER TRAIN.

4-12. MAIN SHAFT MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS
A. REMOVAL.		
1. Six hex bolts (1), nuts (4), washers (2) and lockwashers (3).	Remove from bearings (6), (12) and (21).	
2. Main shaft assembly (24).	Remove.	



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24
USING STRAIGHTEDGE TO CHECK SHEAVE ALINEMENT

LEGEND:

1. HEX BOLT (6)
2. WASHER (6)
3. LOCKWASHER (6)
4. NUT (6)
5. HEX BOLT (3)
6. BEARING
7. WASHER (3)
8. SETSCREW (2)
9. RETAINER
10. SHEAVE
11. BUSHING
12. BEARING
13. SETSCREW
14. RETAINER RING
15. WOODRUFF KEY
16. WOODRUFF KEY
17. HEX BOLT (3)
18. LOCKWASHER (3)
19. BUSHING
20. SHEAVE
21. BEARING
22. SETSCREW (2)
23. RETAINER RING
24. MAIN SHAFT ASSEMBLY

TA 076182

4-12. MAIN SHAFT MAINTENANCE (Continued).

B. DISASSEMBLY.

NOTE

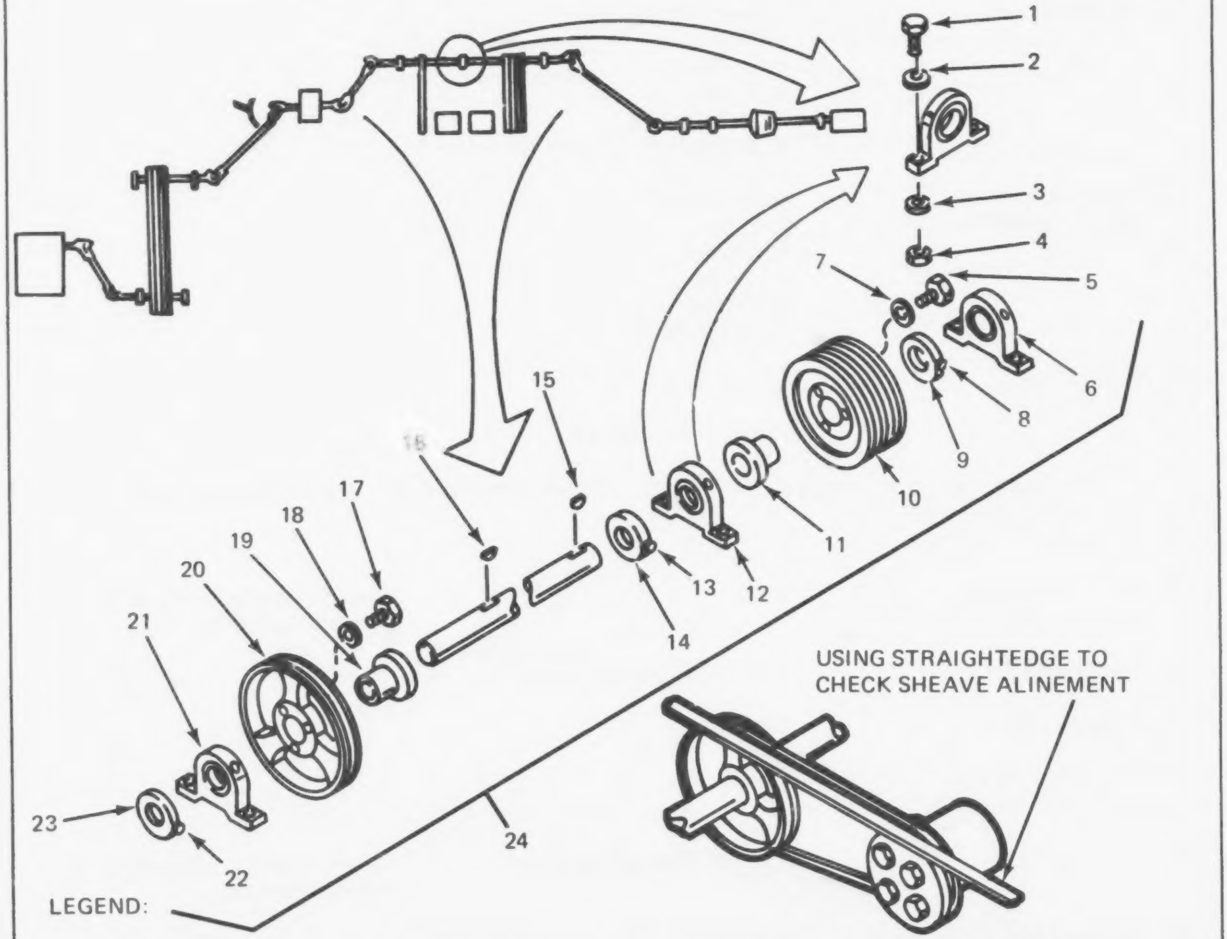
Prior to the disassembly of the main shaft assembly, all paint must be removed from shaft. A light coat of oil applied to the shaft will aid in the removal of the component parts. Punch mark shaft, adjacent to bearing retainer rings and sheave bushings, so that they can be re-alined properly at time of assembly.

LOCATION/ITEM	ACTION	REMARKS
3. Two setscrews (22).	Loosen.	
4. Bearing (21) and retainer (23).	Remove.	Tap off gently, using soft headed hammer.
5. Hex bolts (17) and lockwashers (18).	Remove.	
6. Hex bolts (17).	Install in tapered pusher holes.	Tighten evenly until sheave and bushing separate.
7. Sheave (20).	Remove.	
8. Bushing (19).	Remove.	Tap off gently, using soft headed hammer.
9. Woodruff key (16).	Remove.	
10. Setscrew (13).	Loosen.	There are two setscrews.
11. Bearing (12) and retainer ring (14).	Remove.	Tap off gently, using soft headed hammer.
12. Three hex bolts (5) and three washers (7).	Remove.	
13. Three hex bolts (5).	Install in tapered pusher holes.	Tighten evenly until sheave and bushing separate.
14. Sheave (10).	Remove.	
15. Bushing (11) and woodruff key (15).	Remove.	Tap off gently, using soft headed hammer.
16. Setscrew (8).	Loosen.	
17. Bearing (6) and retainer (9).	Remove.	Tap off gently, using soft headed hammer.

POWER TRAIN.

4-12. MAIN SHAFT MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS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24
USING STRAIGHTEDGE TO CHECK SHEAVE ALINEMENT

LEGEND:

1. HEX BOLT (6)
2. WASHER (6)
3. LOCKWASHER (6)
4. NUT (6)
5. HEX BOLT (3)
6. BEARING
7. WASHER (3)
8. SETSCREW (2)
9. RETAINER
10. SHEAVE
11. BUSHING
12. BEARING
13. SETSCREW
14. RETAINER RING
15. WOODRUFF KEY
16. WOODRUFF KEY
17. HEX BOLT (3)
18. LOCKWASHER (3)
19. BUSHING
20. SHEAVE
21. BEARING
22. SETSCREW (2)
23. RETAINER RING
24. MAIN SHAFT ASSEMBLY

TA 076183

POWER TRAIN.

4-12. MAIN SHAFT MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS
C. CLEANING AND INSPECTION.		
18. All parts.	Clean in SD-2 dry cleaning solvent.	
19. Bearings.	Inspect for: a. Wear. b. Cracks. c. Breaks. d. Deformities. e. Smooth operation.	
20. Sheaves, retainers, bushings and shaft.	Inspect for: a. Wear. b. Cracks. c. Breaks. d. Bends. e. Deformities.	
D. ASSEMBLY.		

NOTE

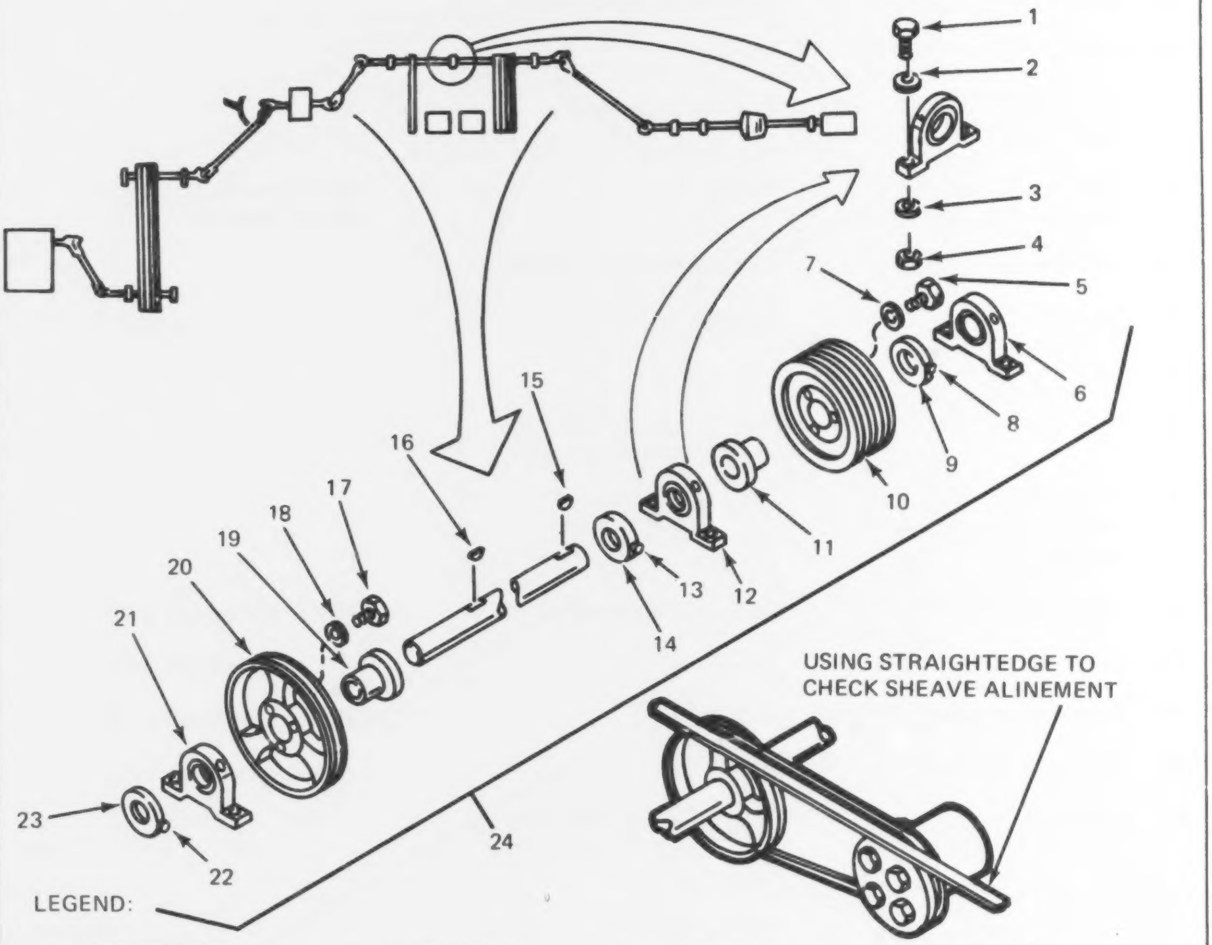
A light coat of oil, applied to the shaft and mating surface of component parts, will aid in the reassembly.

LOCATION/ITEM	ACTION	REMARKS
21. Bearing (6) and retainer (9).	Install.	Tap on gently, using soft headed hammer.
22. Retainer (9).	Aline with punch marks.	
23. Setscrew (8).	Tighten.	
24. Bushing (11) and woodruff key (15).	Install.	
25. Bushing (11).	Aline with punch marks.	Tap on gently, using soft headed hammer.
26. Sheave (10).	Install.	
27. Hex bolts (5) and washers (7).	Tighten bolts evenly.	
28. Retainer (14) and bearing (12).	Install.	
29. Retainer ring (14).	Aline with punch marks.	
30. Setscrew (13).	Tighten.	

POWER TRAIN.

4-12. MAIN SHAFT MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS



USING STRAIGHTEDGE TO CHECK SHEAVE ALINEMENT

LEGEND:

1. HEX BOLT (6)
2. WASHER (6)
3. LOCKWASHER (6)
4. NUT (6)
5. HEX BOLT (3)
6. BEARING
7. WASHER (3)
8. SETSCREW (2)
9. RETAINER
10. SHEAVE
11. BUSHING
12. BEARING
13. SETSCREW
14. RETAINER RING
15. WOODRUFF KEY
16. WOODRUFF KEY
17. HEX BOLT (3)
18. LOCKWASHER (3)
19. BUSHING
20. SHEAVE
21. BEARING
22. SETSCREW (2)
23. RETAINER RING
24. MAIN SHAFT ASSEMBLY

TA 076184

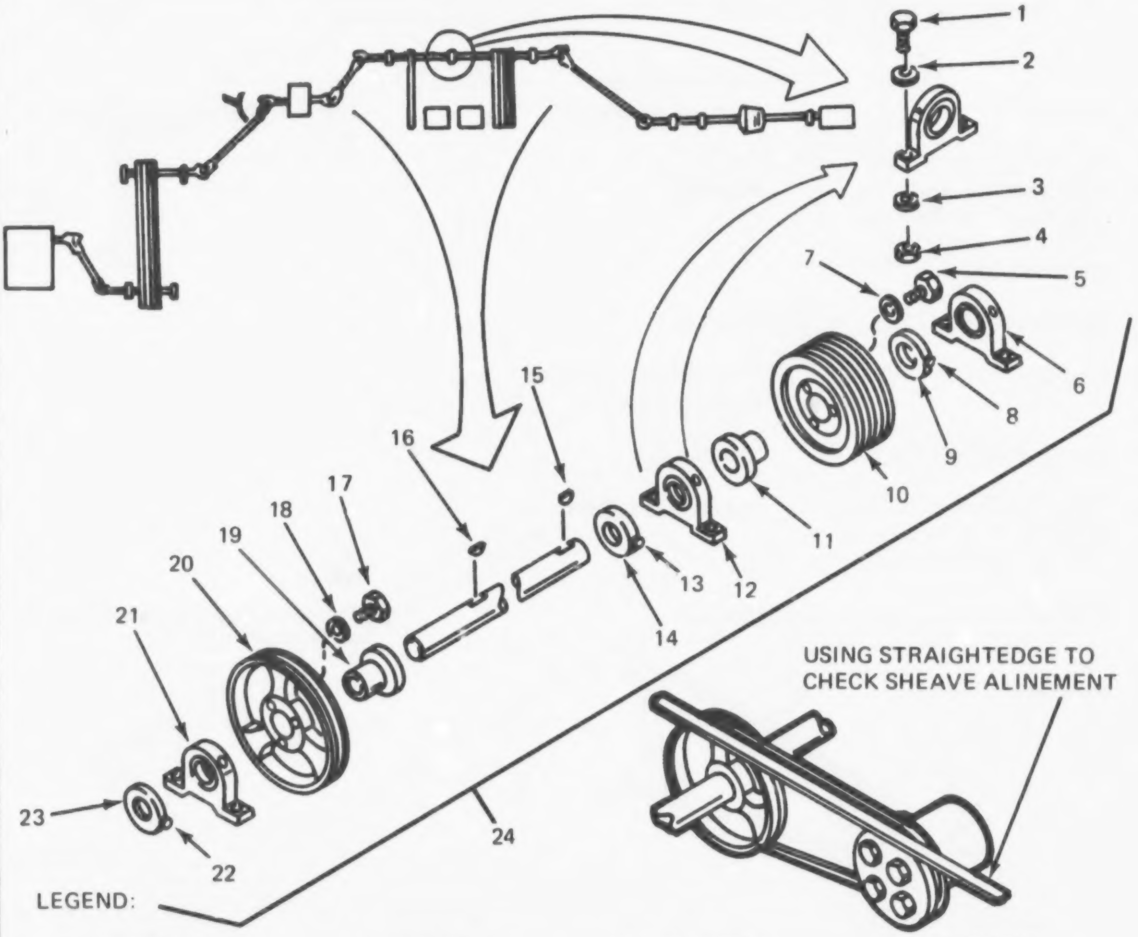
4-12. MAIN SHAFT MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS
D. ASSEMBLY (Continued).		
31. Bushing (19).	Install.	Tap on gently, using soft headed hammer.
32. Bushing (19).	Aline with punch marks.	
33. Sheave (20).	Install.	
34. Hex bolts (17) and lockwashers (18).	Tighten bolts evenly.	
35. Bearing (21) and retainer ring (23).	Install.	Tap on gently, using soft headed hammer.
36. Retainer ring (23).	Aline with punch marks.	
37. Setscrew (22).	Tighten.	
E. INSTALLATION.		
38. Main shaft assembly (24).	Place in vehicle and aline bearing mounting holes.	
39. Hex bolts (1), nuts (4), washers (2) and lockwashers (3).	Install finger tight.	
40. Universal joints.	Install those removed.	Refer to paragraph 4-10.
41. Hydraulic pump belts.	Install.	Refer to paragraph 4-17.
42. Water pump belts.	Install.	Refer to paragraph 4-16.
43. Reversing gear box.	Install.	Refer to paragraph 4-8.
44. Lubricate.	Refer to LO 5-3895-372-12.	

POWER TRAIN.

4-12. MAIN SHAFT MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS



USING STRAIGHTEDGE TO CHECK SHEAVE ALINEMENT

LEGEND:

1. HEX BOLT (6)
2. WASHER (6)
3. LOCKWASHER (6)
4. NUT (6)
5. **HEX BOLT (3)**
6. BEARING
7. WASHER (3)
8. SETSCREW (2)
9. RETAINER
10. SHEAVE
11. BUSHING
12. BEARING
13. SETSCREW
14. RETAINER RING
15. WOODRUFF KEY
16. WOODRUFF KEY
17. HEX BOLT (3)
18. LOCKWASHER (3)
19. BUSHING
20. SHEAVE
21. BEARING
22. SETSCREW (2)
23. RETAINER RING
24. MAIN SHAFT ASSEMBLY

TA 076185

POWER TRAIN.

4-12. MAIN SHAFT MAINTENANCE (Continued).

F. CHECKING ALINEMENT.

NOTE

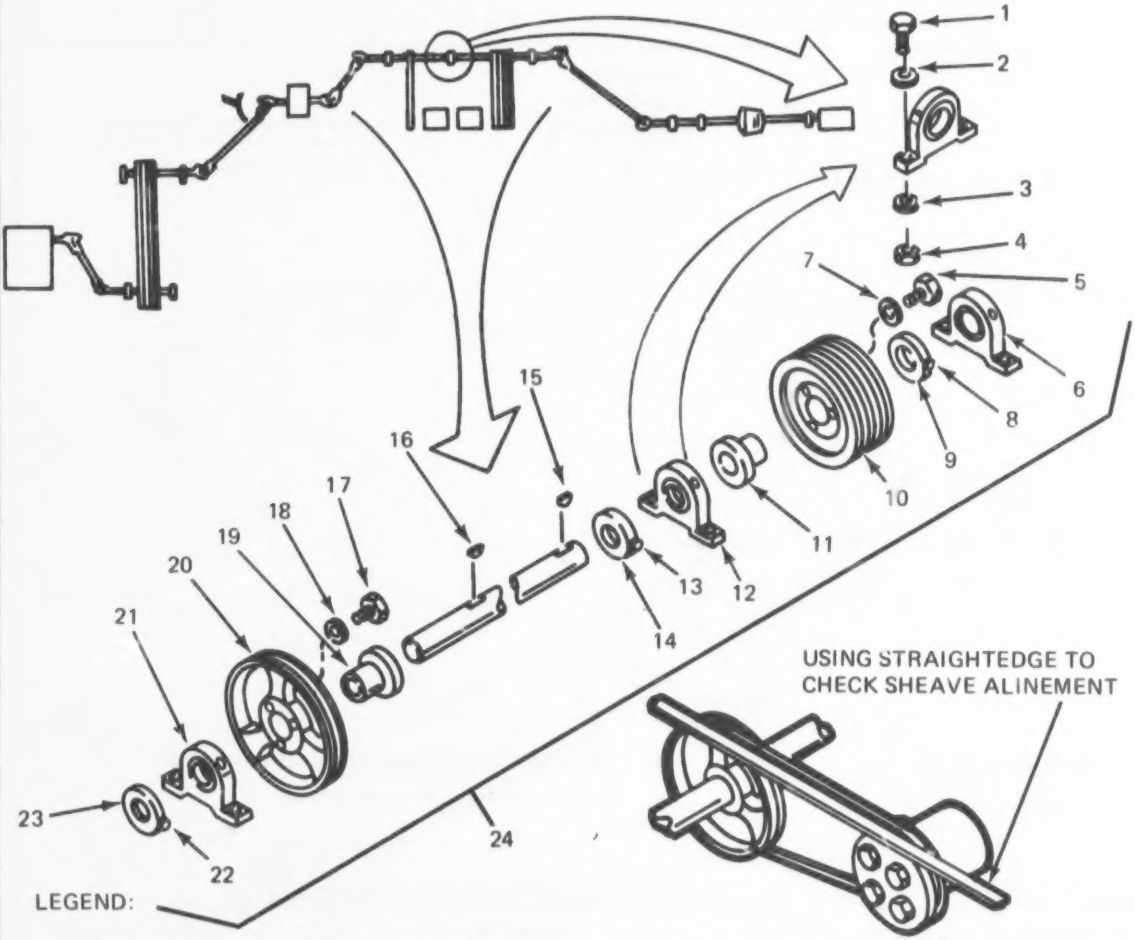
Check the alinement of both sheaves as shown in illustration. If alinement is correct, this procedure is completed. If it is necessary to re-aline the sheaves, follow steps below and re-check alinement.

LOCATION/ITEM	ACTION	REMARKS
45. V-belts.	Remove as needed.	Refer to paragraph 4-16 or 4-17.
46. Hex bolts (5) and washers (7) or hex bolts (17) and washers (18).	Remove.	
47. Sheave (10) or (20).	Remove.	
48. Bushing (11) or (19).	Tap with soft headed hammer to aline.	
49. Sheave (10) or (20).	Install.	
50. Three hex bolts (5) and washers (7) or hex bolts (17) and washers (18).	Install and tighten.	
51. V-belts.	Install.	Refer to paragraph 4-16 or 4-17.
52. Re-check alinement.		

POWER TRAIN.

4-12. MAIN SHAFT MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS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USING STRAIGHTEDGE TO CHECK SHEAVE ALINEMENT

LEGEND:

1. HEX BOLT (6)
2. WASHER (6)
3. LOCKWASHER (6)
4. NUT (6)
5. HEX BOLT (3)
6. BEARING
7. WASHER (3)
8. SETSCREW (2)
9. RETAINER
10. SHEAVE
11. BUSHING
12. BEARING
13. SETSCREW
14. RETAINER RING
15. WOODRUFF KEY
16. WOODRUFF KEY
17. HEX BOLT (3)
18. LOCKWASHER (3)
19. BUSHING
20. SHEAVE
21. BEARING
22. SETSCREW (2)
23. RETAINER RING
24. MAIN SHAFT ASSEMBLY

TA 076186

POWER TRAIN.

4-13. PTO BELTS SHAFT ASSEMBLIES MAINTENANCE.

THIS TASK COVERS: (APPROXIMATE TIME REQUIRED FOLLOWS TASK DESCRIPTION.)

a. Disassembly.	(30)
b. Cleaning and Inspection.	(20)
c. Assembly.	(30)
	80 Minutes Total.

INITIAL SETUP

APPLICABLE CONFIGURATIONS

M919.

TEST EQUIPMENT

None.

SPECIAL TOOLS

None.

MATERIALS/PARTS (P/N)

SD-2 Dry Cleaning Solvent (Refer to Appendix C).

EQUIPMENT CONDITION PARAGRAPH	CONDITION DESCRIPTION
4-12A.	Shaft Assemblies Removed.

PERSONNEL REQUIRED

Two (MOS-62B20).

REFERENCES (TM)

LO 5-3895-372-12.
TM 9-2320-273-10.

TROUBLESHOOTING REFERENCES

Table 4-1.

SPECIAL ENVIRONMENTAL CONDITIONS

Vehicle Parked on Level Ground.

GENERAL SAFETY INSTRUCTIONS

Engine Off.
Transmission in Neutral.
Parking Brake Set.

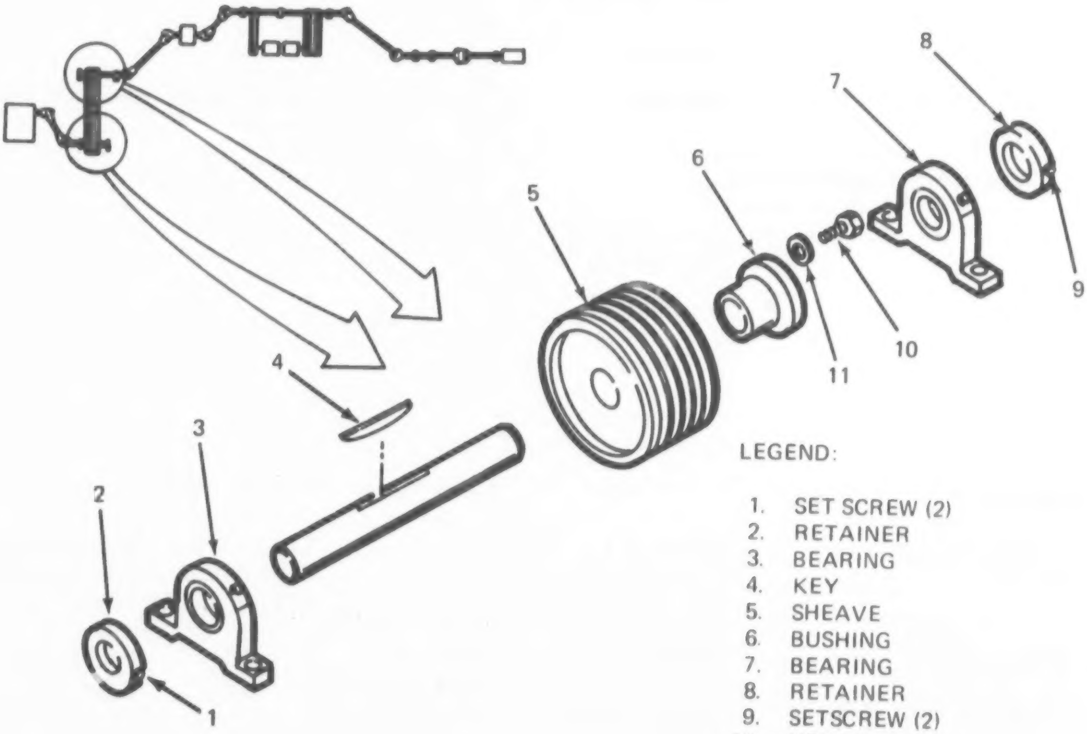
4-13. PTO BELTS SHAFT ASSEMBLIES MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS

A. DISASSEMBLY.

NOTE

Prior to the disassembly of shaft assemblies, shafts must be cleaned thoroughly. Use emery paper to remove all paint. Punch mark the shafts, adjacent to the bearing retainers and split bushing, to aid in the alinement of the sheaves and bearings at time of assembly.



LEGEND:

1. SET SCREW (2)
2. RETAINER
3. BEARING
4. KEY
5. SHEAVE
6. BUSHING
7. BEARING
8. RETAINER
9. SETSCREW (2)
10. HEX BOLT (3)
11. WASHER (3)

TA 076187

4-13. PTO BELTS SHAFT ASSEMBLIES MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS
A. DISASSEMBLY (Continued).		
1. Two retainer setscrews (1) and (9).	Loosen.	Two on each retainer.
2. Bearings (3) and (7) and retainers (2) and (8).	Remove.	Tap off gently using soft headed hammer.
3. Three hex bolts (10) and washers (11).	Remove.	
4. Three hex bolts (10).	Install in three tapered pusher holes and tighten evenly until sheave (5) and bushing (6) separate.	
5. Sheave (5).	Remove.	
6. Bushing (6) and key (4).	Remove.	Tap off gently using soft headed hammer.
B. CLEANING AND INSPECTION.		
7. All parts.	Clean all parts in SD-2 dry cleaning solvent.	
8. All parts.	Inspect for: a. Cracks. b. Breaks. c. Burrs. d. Excessive wear. e. Deterioration.	
C. ASSEMBLY.		
9. Bushing (6) and key (4).	Install.	Tap onto shaft gently using soft headed hammer. Aline bushing with punch marks.
10. Sheave (5).	Install.	
11. Three hex bolts (10) and washers (11).	Install. Tighten evenly.	
12. Bearings (3) and (7).	Install.	Tap on gently using soft headed hammer.
13. Retainers (2) and (8).	Install.	Tap on gently using soft headed hammer.

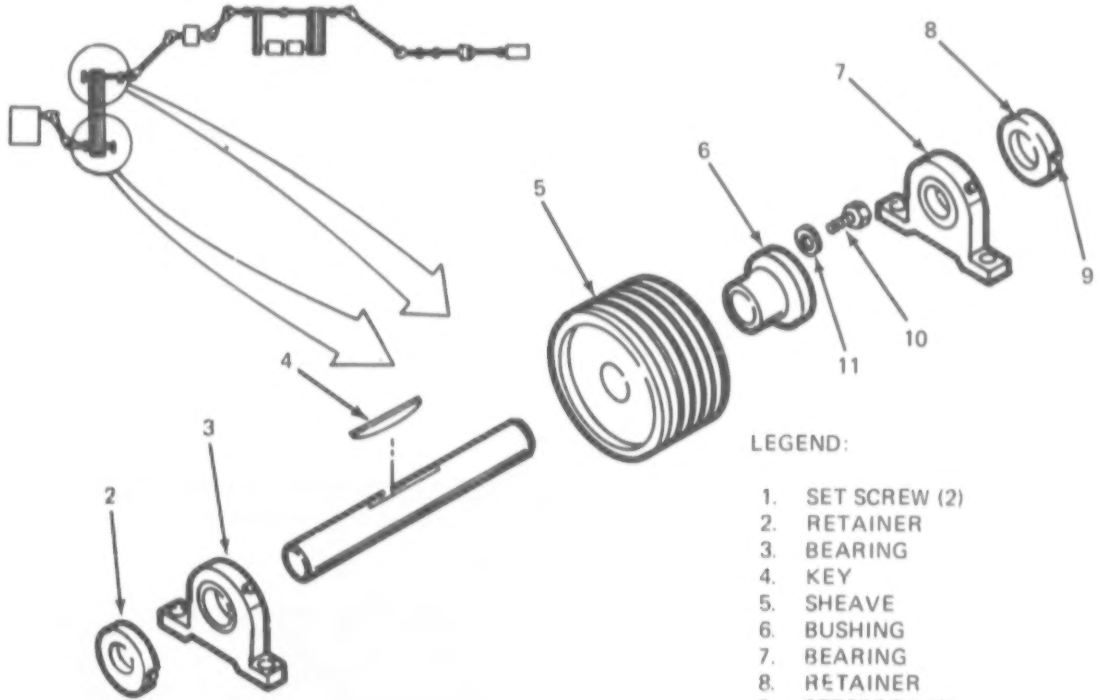
4-13. PTO BELTS SHAFT ASSEMBLIES MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS
C. ASSEMBLY (Continued).		
14. Retainers (2) and (8).	Aline with punch marks and tighten two setscrews (1) and (9).	

NOTE

Follow-on maintenance required:

Install shaft assemblies (refer to para 4-12 E and F).
Lubricate (refer to LO 5-3895-372-12).



LEGEND:

1. SET SCREW (2)
2. RETAINER
3. BEARING
4. KEY
5. SHEAVE
6. BUSHING
7. BEARING
8. RETAINER
9. SETSCREW (2)
10. HEX BOLT (3)
11. WASHER (3)

TA 076188

4-14. REVERSING GEAR BOX OUTPUT SHAFT MAINTENANCE.

THIS TASK COVERS: (APPROXIMATE TIME REQUIRED FOLLOWS TASK DESCRIPTION.)

a. Removal.	(10)
b. Disassembly.	(10)
c. Cleaning and Inspection.	(15)
d. Assembly.	(10)
e. Installation.	(15)
	60 Minutes Total.

INITIAL SETUP

APPLICABLE CONFIGURATIONS

M919.

TEST EQUIPMENT

None.

SPECIAL TOOLS

None.

MATERIALS/PARTS (P/N)

Lockwire (Refer to Appendix C).

PERSONNEL REQUIRED

One (MOS-62B20).

REFERENCES (TM)

TM 5-3895-372-20P.
TM 9-2320-273-10.

TROUBLESHOOTING REFERENCES

Table 4-1.

EQUIPMENT CONDITION PARAGRAPH	CONDITION DESCRIPTION
4-8A.	Reversing Gear Box Removed.

SPECIAL ENVIRONMENTAL CONDITIONS

Vehicle Parked on Level Ground.

GENERAL SAFETY INSTRUCTIONS

Engine Off.
Transmission in Neutral.
Parking Brake Set.

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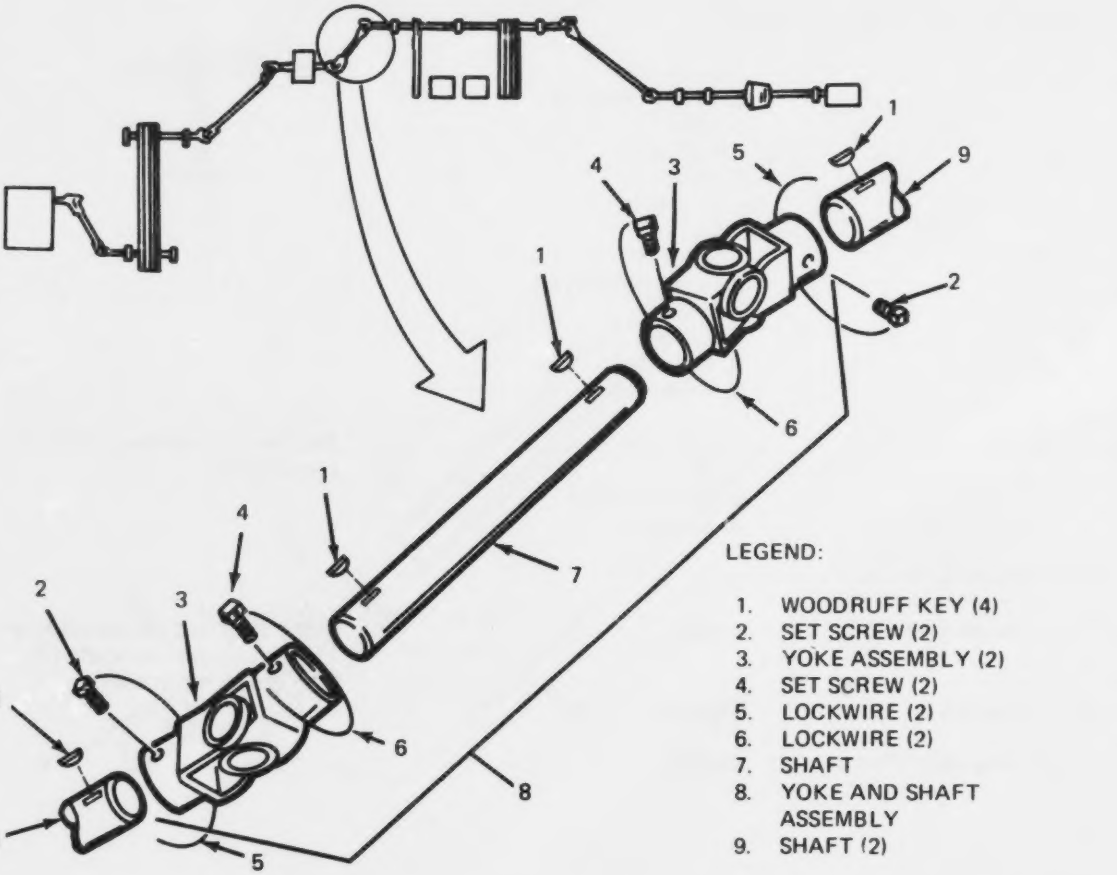
4-14. REVERSING GEAR BOX OUTPUT SHAFT MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS
A. REMOVAL.		
1. Two lockwires (5).	Cut and remove.	
2. Two setscrews (2).	Loosen.	
3. Yoke and shaft assembly (8).	Remove.	Tap off with hammer.

NOTE

Be careful not to lose the two woodruff keys from the shafts (9).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LEGEND:
1. WOODRUFF KEY (4)
2. SET SCREW (2)
3. YOKE ASSEMBLY (2)
4. SET SCREW (2)
5. LOCKWIRE (2)
6. LOCKWIRE (2)
7. SHAFT
8. YOKE AND SHAFT ASSEMBLY
9. SHAFT (2)

TA 076189

POWER TRAIN.

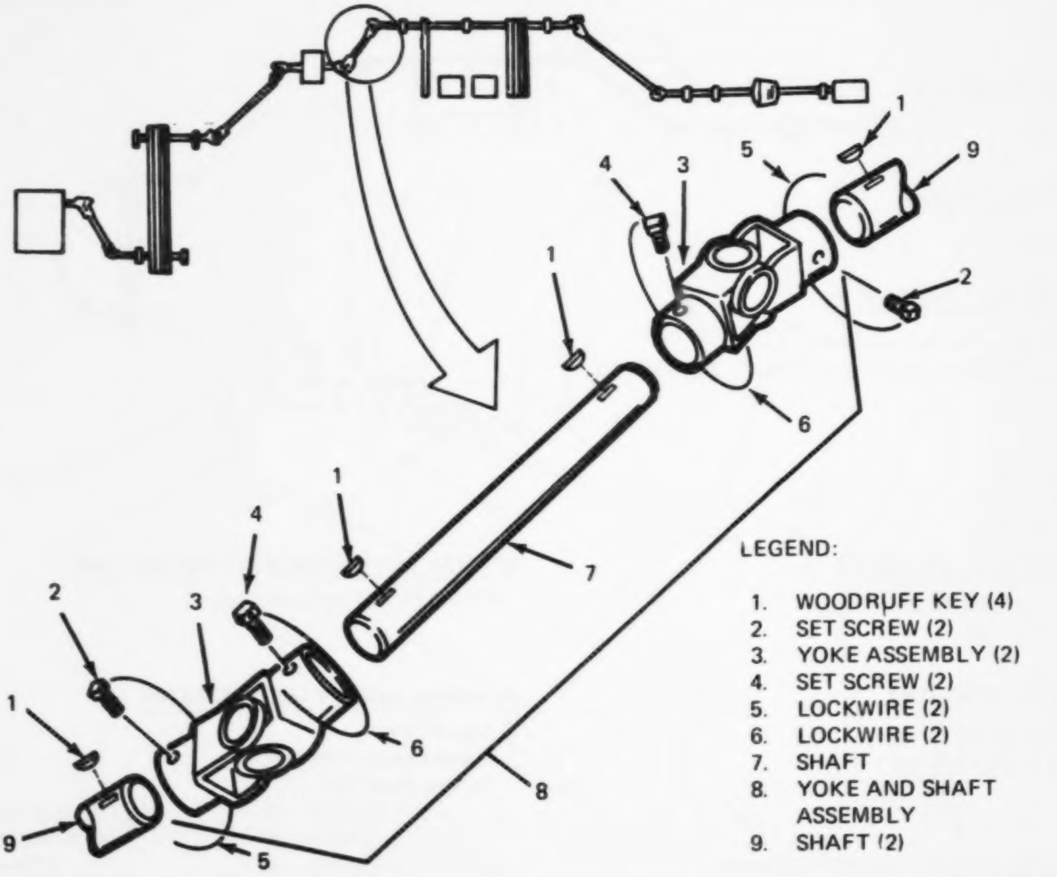
4-14. REVERSING GEAR BOX OUTPUT SHAFT MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS
A. REMOVAL (Continued).		
4. Yoke and shaft assembly (8).	Place in suitable vise.	Be careful not to damage the shaft.
B. DISASSEMBLY.		
5. Two lockwires (6)	Cut and remove.	
6. Two setscrews (4).	Loosen.	
7. Two yoke assemblies (3).	Remove by tapping off with hammer.	Be careful not to lose the woodruff keys (1) from shaft (7).
C. CLEANING AND INSPECTION.		
8. Shaft.	Inspect for: a. Worn keyways. b. Wear. c. Bends. d. Cracks. e. Breaks.	Replace if necessary.
9. Yokes.	Inspect for: a. Worn keyways. b. Wear. c. Cracks. d. Breaks. e. Deformities.	
10. Universal joints.	Inspect for: a. Wear. b. Missing parts. c. Damage.	Replace if necessary (refer to para 4-10).
D. ASSEMBLY.		
11. Yoke assemblies (3).	Install.	Make sure two woodruff keys (1) are in place on shaft (7). Tap on with hammer.
12. Setscrews (4).	Tighten.	
13. Lockwires (6).	Install.	

POWER TRAIN.

4-14. REVERSING GEAR BOX OUTPUT SHAFT MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS
E. INSTALLATION.		
14. Yoke and shaft assembly (8).	Install.	Make sure two woodruff keys (1) are in place on shafts (9). Tap on with hammer.
15. Two setscrews (2).	Tighten and install two lockwires (5).	



LEGEND:

1. WOODRUFF KEY (4)
2. SET SCREW (2)
3. YOKE ASSEMBLY (2)
4. SET SCREW (2)
5. LOCKWIRE (2)
6. LOCKWIRE (2)
7. SHAFT
8. YOKE AND SHAFT ASSEMBLY
9. SHAFT (2)

TA 076190

4-15. REAR INCLINE SHAFT MAINTENANCE.

THIS TASK COVERS: (APPROXIMATE TIME REQUIRED FOLLOWS TASK DESCRIPTION.)

a. Removal.	(30)
b. Disassembly.	(10)
c. Cleaning and Inspection.	(10)
d. Assembly.	(10)
e. Installation.	(30)
	90 Minutes Total.

INITIAL SETUP

EQUIPMENT CONDITION PARAGRAPH	CONDITION DESCRIPTION
None.	None.

APPLICABLE CONFIGURATIONS

M919.

TEST EQUIPMENT

None.

SPECIAL TOOLS

None.

MATERIALS/PARTS (P/N)

Lockwire (Refer to Appendix C).
SD-2 Dry Cleaning Solvent (Refer to Appendix C).

PERSONNEL REQUIRED

One (MOS-62B20).

REFERENCES (TM)

TM 9-2320-273-10.
TM 5-3895-372-20P.

TROUBLESHOOTING REFERENCES

Table 4-1.

SPECIAL ENVIRONMENTAL CONDITIONS

Vehicle Parked on Level Ground.

GENERAL SAFETY INSTRUCTIONS

Engine Off.
Transmission in Neutral.
Parking Brake Set.

POWER TRAIN.

4-15. REAR INCLINE SHAFT MAINTENANCE (Continued).

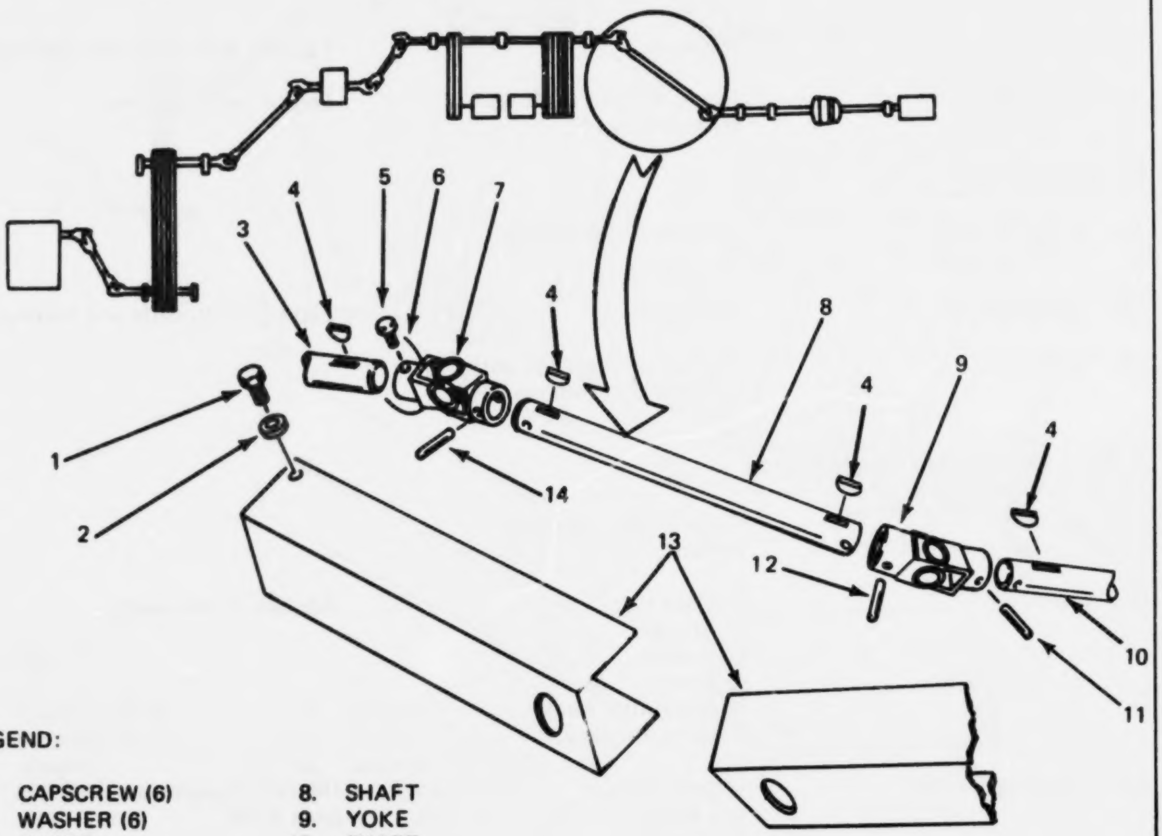
LOCATION/ITEM	ACTION	REMARKS

NOTE

Punch mark yokes and shafts prior to removal.

A. REMOVAL.

LOCATION/ITEM	ACTION	REMARKS
1. Six capscrews (1) and washers (2).	Remove.	
2. Covers (13).	Remove.	
3. Lockwire (6).	Cut and remove.	



LEGEND:

1. CAPSCREW (6)
2. WASHER (6)
3. SHAFT
4. WOODRUFF KEY (4)
5. SET SCREW
6. LOCKWIRE
7. YOKE
8. SHAFT
9. YOKE
10. SHAFT
11. ROLL PIN
12. ROLL PIN
13. COVER (2)
14. ROLL PIN

TA 076191

4-15. REAR INCLINE SHAFT MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS
A. REMOVAL (Continued).		
4. Setscrew (5).	Loosen.	
5. Yoke (7) and woodruff key (4).	Using hammer, tap yoke (7) off of shaft (3).	Be careful not to lose woodruff key (4).
6. Roll pin (12).	Remove.	Tap out with drift and hammer.
7. Shaft (8).	Remove from yoke (9) and key (4) from shaft (8).	Tap out with drift and hammer.
8. Shaft (8) with attached yoke (7).	Remove from vehicle.	
9. Roll pin (11).	Remove.	Tap out with drift and hammer.
10. Yoke (9).	Remove from shaft and remove key (4).	Tap off with hammer.
B. DISASSEMBLY.		
11. Shaft (8) with attached yoke (7).	Place in suitable vise.	
12. Roll pin (14).	Remove.	Tap out with drift and hammer.
13. Yoke (7).	Tap off of shaft (8) with hammer and remove key (4).	
C. CLEANING AND INSPECTION.		
14. All parts.	Clean in dry cleaning solvent.	
15. Shaft.	Inspect for: a. Cracks. b. Breaks. c. Bends. d. Abnormal wear. e. Worn keyway.	Replace if necessary.
16. Universal joints.	Inspect for: a. Cracks. b. Breaks. c. Wear. d. Missing parts.	Replace if necessary (refer to para 4-10).

POWER TRAIN.

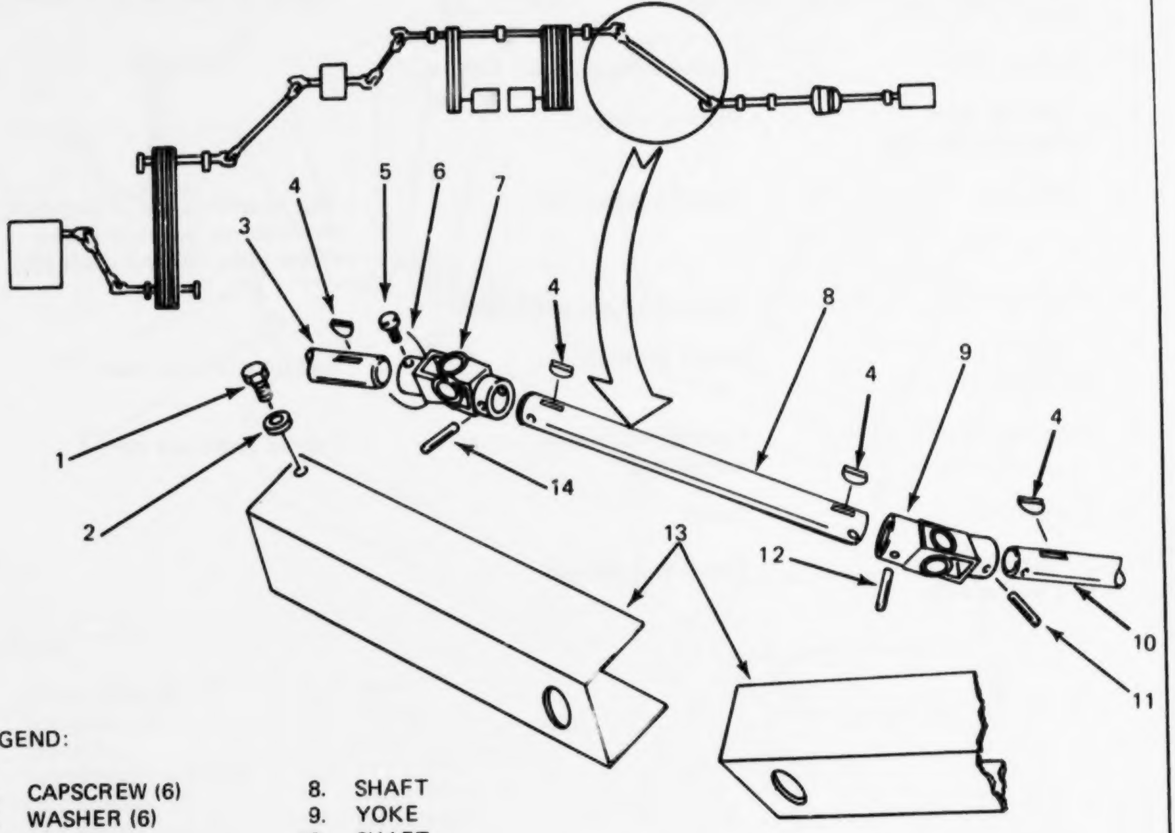
4-15. REAR INCLINE SHAFT MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS

D. ASSEMBLY.

NOTE

When installing yokes, make certain that punch marks on yokes and shafts are lined up.



LEGEND:

1. CAPSCREW (6)
2. WASHER (6)
3. SHAFT
4. WOODRUFF KEY (4)
5. SET SCREW
6. LOCKWIRE
7. YOKE
8. SHAFT
9. YOKE
10. SHAFT
11. ROLL PIN
12. ROLL PIN
13. COVER (2)
14. ROLL PIN

TA 076192

POWER TRAIN.

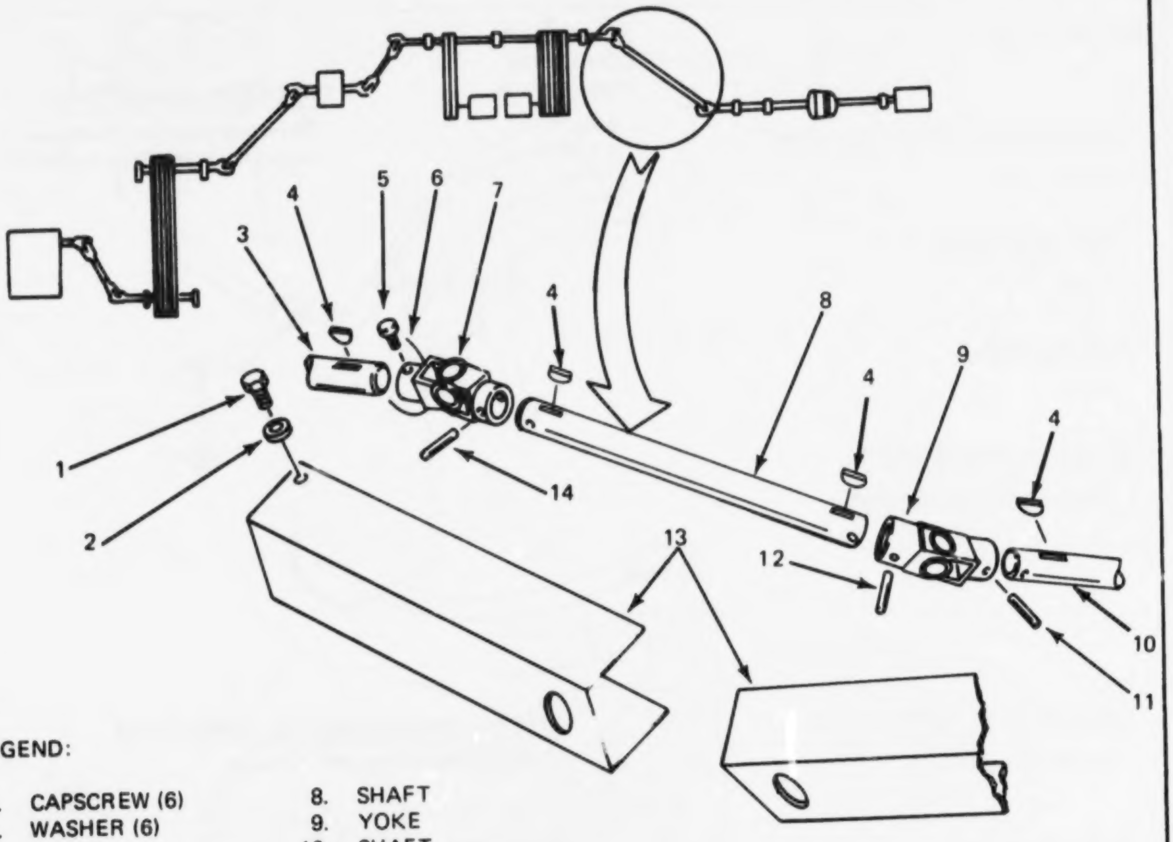
4-15. REAR INCLINE SHAFT MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS
D. ASSEMBLY (Continued).		
17. Yoke (7) and woodruff key (4).	Install on shaft (8).	Tap onto shaft with a hammer.
18. Roll pin (14).	Install.	
E. INSTALLATION.		
19. Yoke (9) and woodruff key (4).	Install on shaft (10).	Tap onto shaft with a hammer.
20. Roll pin (11).	Install through shaft (10).	
21. Shaft (8) with attached yoke (7).	Place in vehicle.	
22. Shaft (8).	Install in yoke (9).	Tap in with hammer and drift, from above, while one man alines yoke (9) and shaft (8).
23. Roll pin (12).	Install through shaft (8).	
24. Yoke (7) and woodruff key (4).	Install on shaft (3).	Tap on with hammer.
25. Setscrew (5).	Tighten and install lockwire (6).	Tap on with hammer.
26. Covers (13).	Install.	
27. Six capscrews (1) and washers (2).	Install and tighten.	

POWER TRAIN.

4-15. REAR INCLINE SHAFT MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS



LEGEND:

1. CAPSCREW (6)
2. WASHER (6)
3. SHAFT
4. WOODRUFF KEY (4)
5. SET SCREW
6. LOCKWIRE
7. YOKE
8. SHAFT
9. YOKE
10. SHAFT
11. ROLL PIN
12. ROLL PIN
13. COVER (2)
14. ROLL PIN

TA 076193

POWER TRAIN.

4-16. WATER PUMP BELTS MAINTENANCE.

THIS TASK COVERS: (APPROXIMATE TIME REQUIRED FOLLOWS TASK DESCRIPTION.)

a. Loosening.	(5)
b. Removal.	(45)
c. Installation.	(60)
d. Adjustment.	(10)
	120 Minutes Total.

INITIAL SETUP

EQUIPMENT CONDITION PARAGRAPH	CONDITION DESCRIPTION
4-8A.	Reversing Gear Box Removed.
4-17A.	Hydraulic Pump Belts Loosened.

APPLICABLE CONFIGURATIONS

M919.

TEST EQUIPMENT

None.

SPECIAL TOOLS

None.

MATERIALS/PARTS (P/N)

V-Belts, NP5032-010 (50663).

PERSONNEL REQUIRED

One (MOS-62B20).

REFERENCES (TM)

TM 5-3895-372-20P.
TM 9-2320-273-10.

TROUBLESHOOTING REFERENCES

Table 4-1.

SPECIAL ENVIRONMENTAL CONDITIONS

Vehicle Parked on Level Ground.

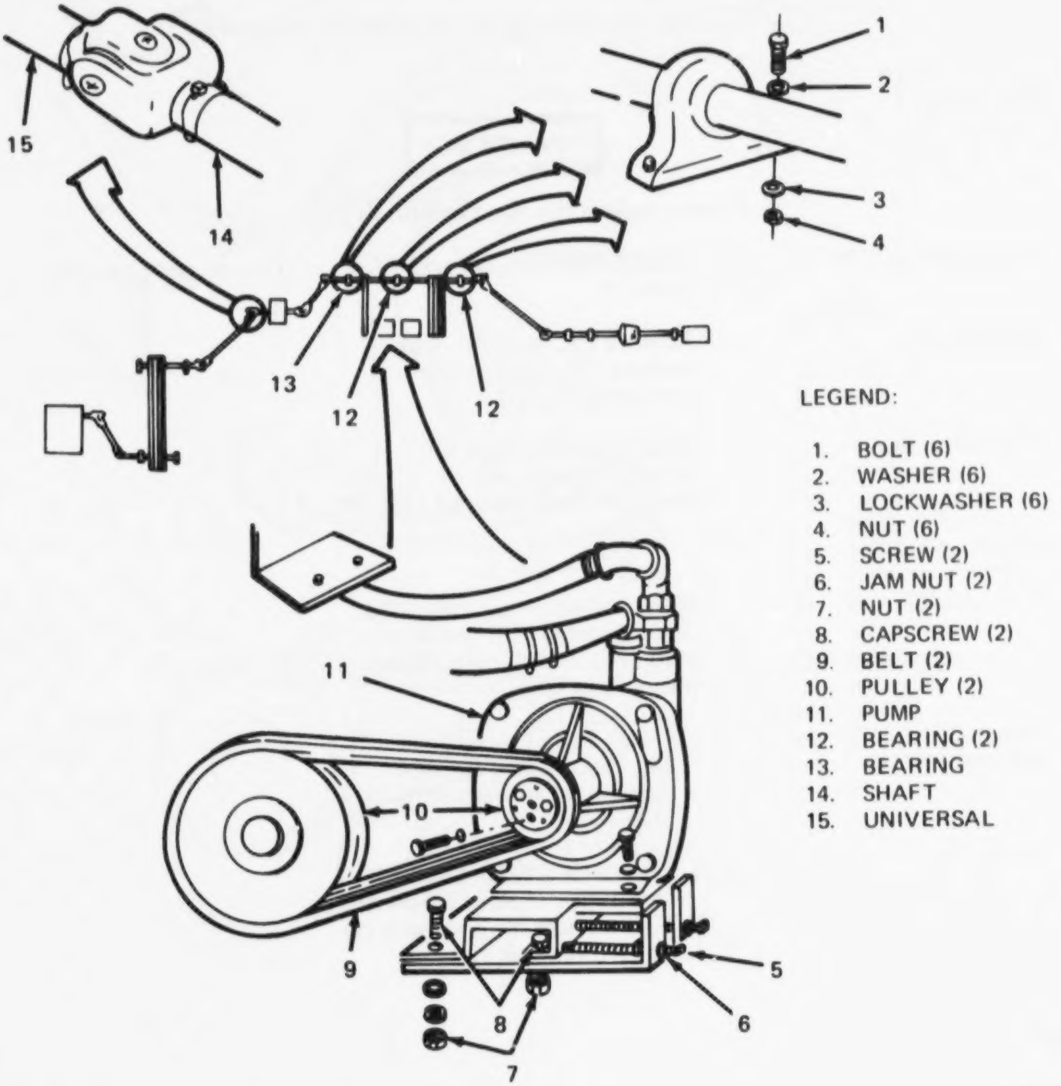
GENERAL SAFETY INSTRUCTIONS

Engine Off.
Transmission in Neutral.
Parking Brake Set.

POWER TRAIN.

4-16. WATER PUMP BELTS MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS
A. LOOSENING.		
1. Two nuts (7) and capscrews (8).	Loosen.	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LEGEND:
1. BOLT (6)
2. WASHER (6)
3. LOCKWASHER (6)
4. NUT (6)
5. SCREW (2)
6. JAM NUT (2)
7. NUT (2)
8. CAPSCREW (2)
9. BELT (2)
10. PULLEY (2)
11. PUMP
12. BEARING (2)
13. BEARING
14. SHAFT
15. UNIVERSAL

TA 076194

4-16. WATER PUMP BELTS MAINTENANCE (Continued).

A. LOOSENING (Continued).

LOCATION/ITEM	ACTION	REMARKS
2. Two jam nuts (6).	Loosen.	One on each screw (5).
3. Pump (11).	Slide inward.	

NOTE

You may slide two belts (9) off of pulleys at this point.

B. REMOVAL.

CAUTION

Always replace the two belts (9) as a set.

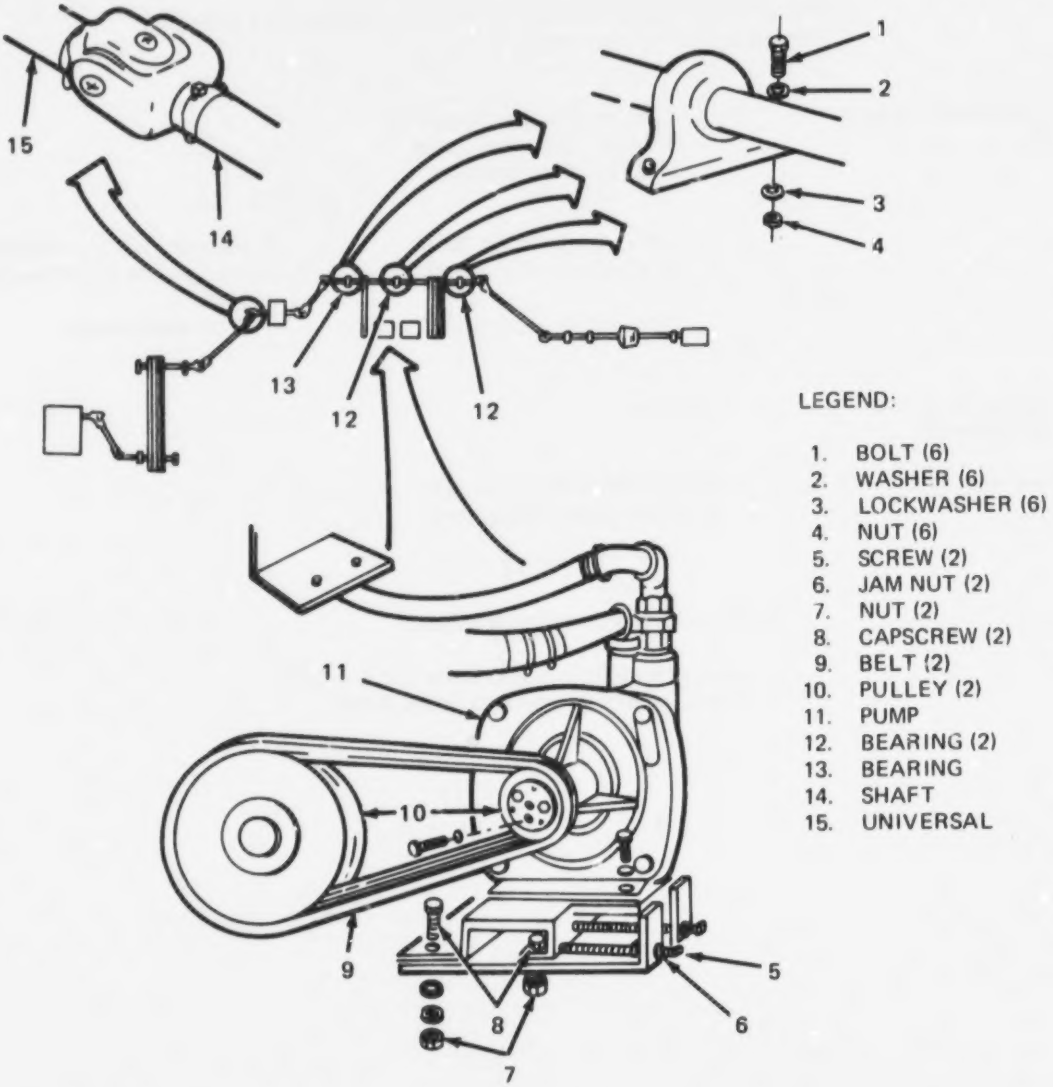
LOCATION/ITEM	ACTION	REMARKS
4. Two bearings (12).	Loosen four nuts (4) and bolts (1).	Two on each bearing.
5. Bearing (13).	Remove two nuts (4), lockwashers (3), washers (2), and capscrews (1).	
6. Two belts (9).	Slide under bearing (13) and off forward end of shaft (14) and universal (15).	

C. INSTALLATION.

LOCATION/ITEM	ACTION	REMARKS
7. Two belts (9).	Slide over universal shaft (15). Under bearing (13) and over shaft (14). Install belts (9) on two pulleys (10).	
8. Two bearings (12) and bearing (13).	a. Install bolts (1), washers (2), lockwashers (3), and nuts (4) on front bearing (13). b. Use a straightedge to check that pulley sheaves are alined. Tighten nuts (4) and bolts (1) on all three bearings.	

4-16. WATER PUMP BELTS MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS



LEGEND:

1. BOLT (6)
2. WASHER (6)
3. LOCKWASHER (6)
4. NUT (6)
5. SCREW (2)
6. JAM NUT (2)
7. NUT (2)
8. CAPSCREW (2)
9. BELT (2)
10. PULLEY (2)
11. PUMP
12. BEARING (2)
13. BEARING
14. SHAFT
15. UNIVERSAL

TA 076195

4-16. WATER PUMP BELTS MAINTENANCE (Continued).

D. ADJUSTMENT.

CAUTION

Measure belt tension at a point halfway between the pulleys.
Tighten adjusting nuts evenly.

LOCATION/ITEM	ACTION	REMARKS
9. Two adjusting nuts (6).	a. Turn until belts (9) deflect 9/64 in. (3.6 mm) under 6 lb (27 N·m) pressure.	
	b. Use a straightedge to be sure pulleys (10) are alined.	If pulleys (10) are misalined, the nuts were tightened unevenly.
	c. Tighten jam nuts (6).	One on each screw.
10. Two nuts (7) and capscrews (8).	Tighten.	
11. Two belts (9).	Make a final check on tension and pulley alinement.	

NOTE

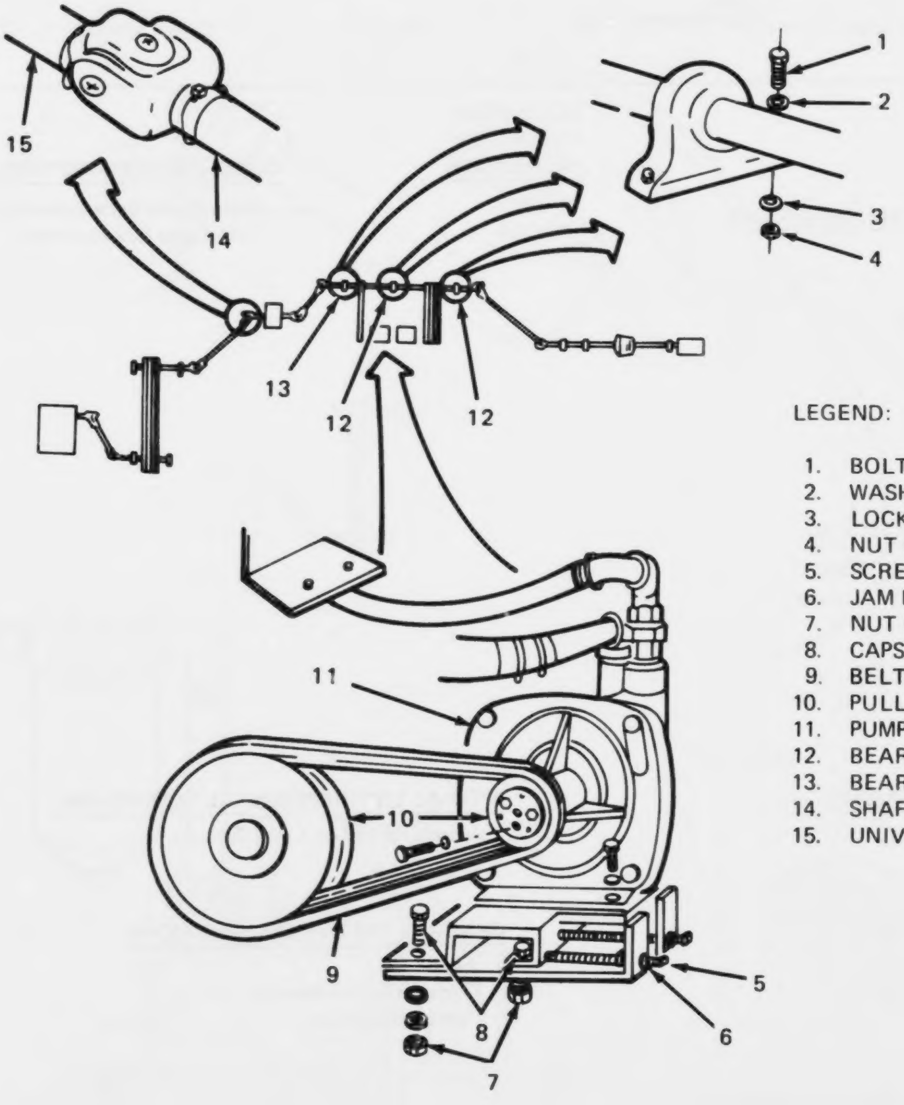
Follow-on maintenance required:

Adjust hydraulic pump belts (para 4-17D).
Install reversing gear box (para 4-8B).

POWER TRAIN.

4-16. WATER PUMP BELTS MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS



LEGEND:

1. BOLT (6)
2. WASHER (6)
3. LOCKWASHER (6)
4. NUT (6)
5. SCREW (2)
6. JAM NUT (2)
7. NUT (2)
8. CAPSCREW (2)
9. BELT (2)
10. PULLEY (2)
11. PUMP
12. BEARING (2)
13. BEARING
14. SHAFT
15. UNIVERSAL

TA 076196

POWER TRAIN.

4-17. HYDRAULIC PUMP BELTS MAINTENANCE.

THIS TASK COVERS: (APPROXIMATE TIME REQUIRED FOLLOWS TASK DESCRIPTION.)

a. Loosening.	(5)
b. Removal.	(45)
c. Installation.	(60)
d. Adjustment.	(10)
	120 Minutes Total.

INITIAL SETUP

EQUIPMENT CONDITION PARAGRAPH	CONDITION DESCRIPTION
4-16A.	Water Pump Belts Loosened.
10-12A.	Tach Cable Disconnected.

APPLICABLE CONFIGURATIONS

M919.

TEST EQUIPMENT

None.

SPECIAL TOOLS

None.

MATERIALS/PARTS (P/N)

V-Belts, NP5032002 (50663).
Lockwire (Refer to Appendix C).

PERSONNEL REQUIRED

Two (MOS-62B20).

REFERENCES (TM)

TM 9-2320-273-10.
TM 5-3895-372-20P.

TROUBLESHOOTING REFERENCES

Table 4-1.

SPECIAL ENVIRONMENTAL CONDITIONS

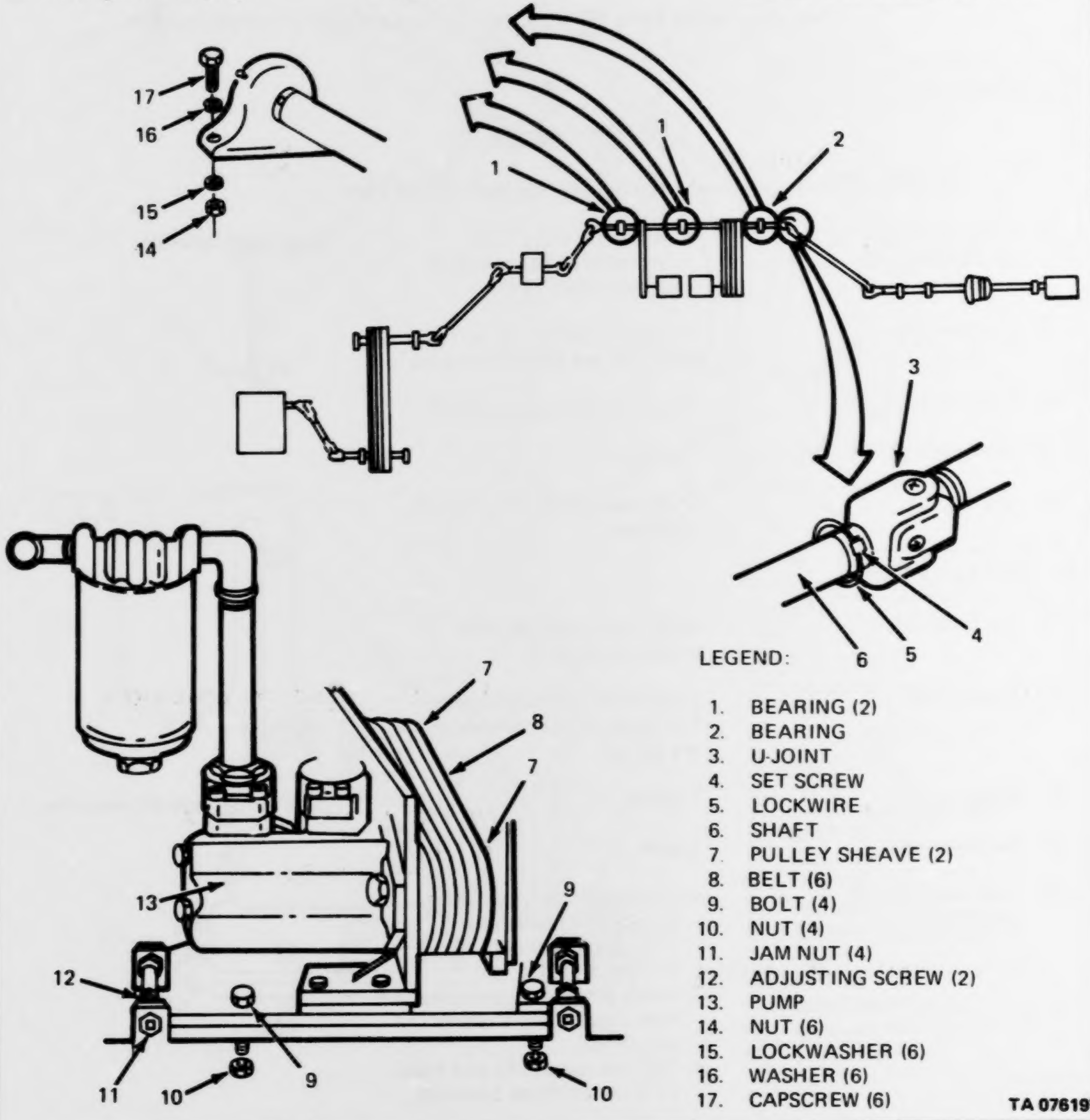
Vehicle Parked on Level Ground.

GENERAL SAFETY INSTRUCTIONS

Engine Off.
Transmission in Neutral.
Parking Brake Set.

4-17. HYDRAULIC PUMP BELTS MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS
A. LOOSENING.		
1. Four nuts (10) and bolts (9).	Loosen.	
2. Four jam nuts (11).	Loosen.	One on each adjusting screw.



LEGEND:

1. BEARING (2)
2. BEARING
3. U-JOINT
4. SET SCREW
5. LOCKWIRE
6. SHAFT
7. PULLEY SHEAVE (2)
8. BELT (6)
9. BOLT (4)
10. NUT (4)
11. JAM NUT (4)
12. ADJUSTING SCREW (2)
13. PUMP
14. NUT (6)
15. LOCKWASHER (6)
16. WASHER (6)
17. CAPSCREW (6)

TA 076197

4-17. HYDRAULIC PUMP BELTS MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS
A. LOOSENING (Continued).		
3. Pump (13).	Slide inward.	

NOTE

You may remoe belts (8) from two pulleys sheaves (7) at this point.

LOCATION/ITEM	ACTION	REMARKS
B. REMOVAL.		

NOTE

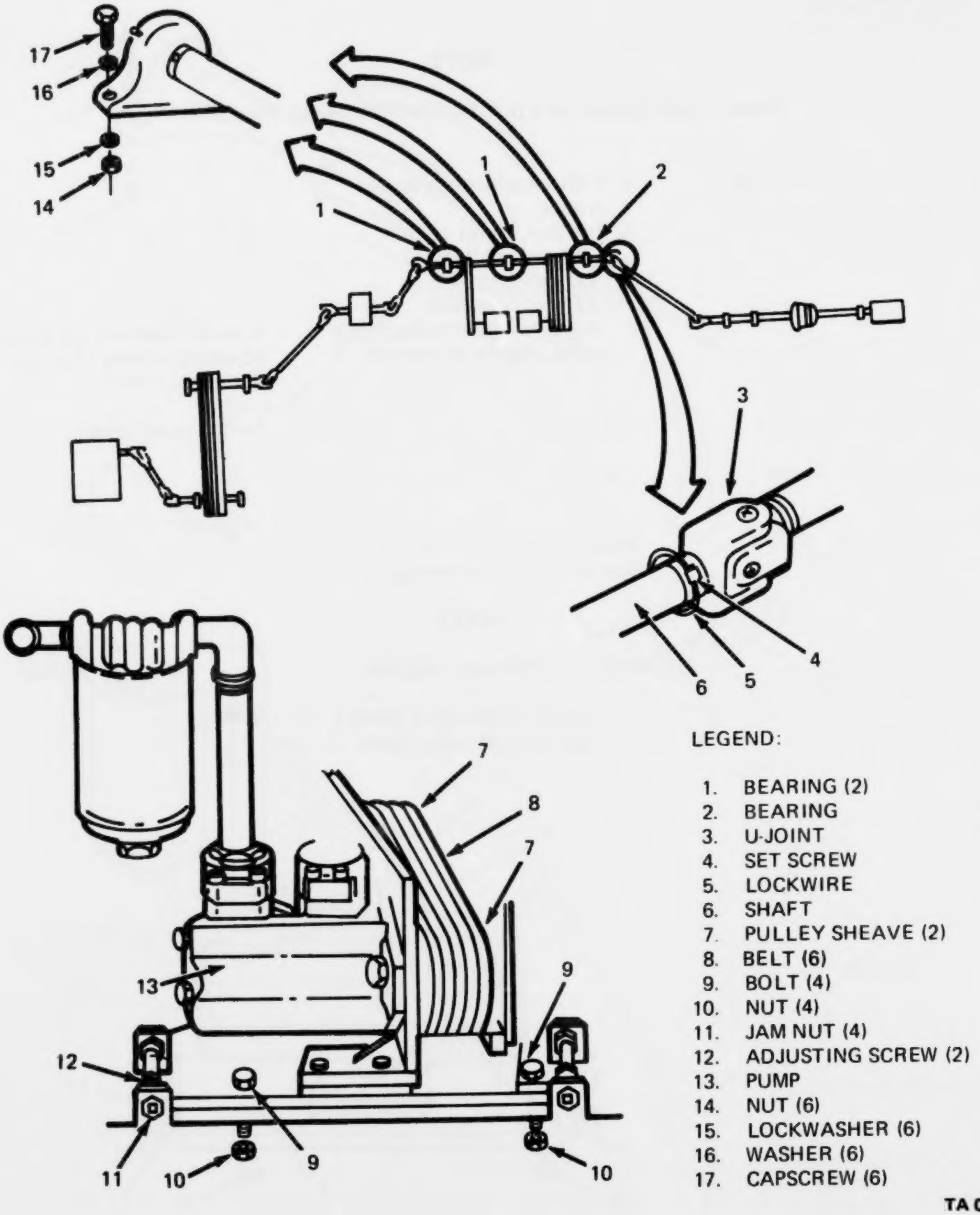
Always replace the six belts (8) as a set.

LOCATION/ITEM	ACTION	REMARKS
4. Two bearings (1), and bearing (2).	Remove six nuts (14), lockwashers (15), washers (16) and bolts (17).	Two each bearing.
5. U-joints (3).	Be sure U-joints (3) and shaft (6) are punch marked.	
6. Lockwire (5).	Remove from setscrew (4).	
7. Setscrew (4).	Loosen.	
8. U-joint (3).	Slide rearwards off of shaft. Remove.	
C. INSTALLATION.		
9. Six belts (8).	Slide over shaft (6) and under bearing (2).	
10. U-joint (3).	Slide shaft (6) into U-joint (3). Be sure punchmarks are alined.	
11. Setscrew (4).	Tighten.	Shaft must not slip in collar.
12. Lockwire (5).	Install.	
13. Two bearings (1), and (2).	a. Loosely install six capscrews (17), washers (16), lockwashers (15), and nuts (14). b. Use a straightedge to check that two pulley sheaves (7) are alined. c. Tighten nuts (14) and bolts (17) on all three bearings.	

POWER TRAIN.

4-17. HYDRAULIC PUMP BELTS MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS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LEGEND:

1. BEARING (2)
2. BEARING
3. U-JOINT
4. SET SCREW
5. LOCKWIRE
6. SHAFT
7. PULLEY SHEAVE (2)
8. BELT (6)
9. BOLT (4)
10. NUT (4)
11. JAM NUT (4)
12. ADJUSTING SCREW (2)
13. PUMP
14. NUT (6)
15. LOCKWASHER (6)
16. WASHER (6)
17. CAPSCREW (6)

TA 076198

4-17. HYDRAULIC PUMP BELTS MAINTENANCE (Continued).

D. ADJUSTMENT.

NOTE

Measure belt tension at a point halfway between the pulleys.

LOCATION/ITEM	ACTION	REMARKS
14. Two adjusting screws (12).	a. Tighten adjusting screws evenly. b. Position pump so that belts deflect 5/32 in. (4.0 mm) under 6 lb. (27 N·m) pressure. c. Use a straightedge to check pulley sheave alinement.	If pulley sheaves are misalined, adjusting screws (12) were not tightened evenly.
15. Four jam nuts (11).	Tighten.	Two on each screw.
16. Four nuts (10) and bolts (9).	Tighten.	
17. Six belts (8).	Make a final check on tension and pulley alinement.	

NOTE

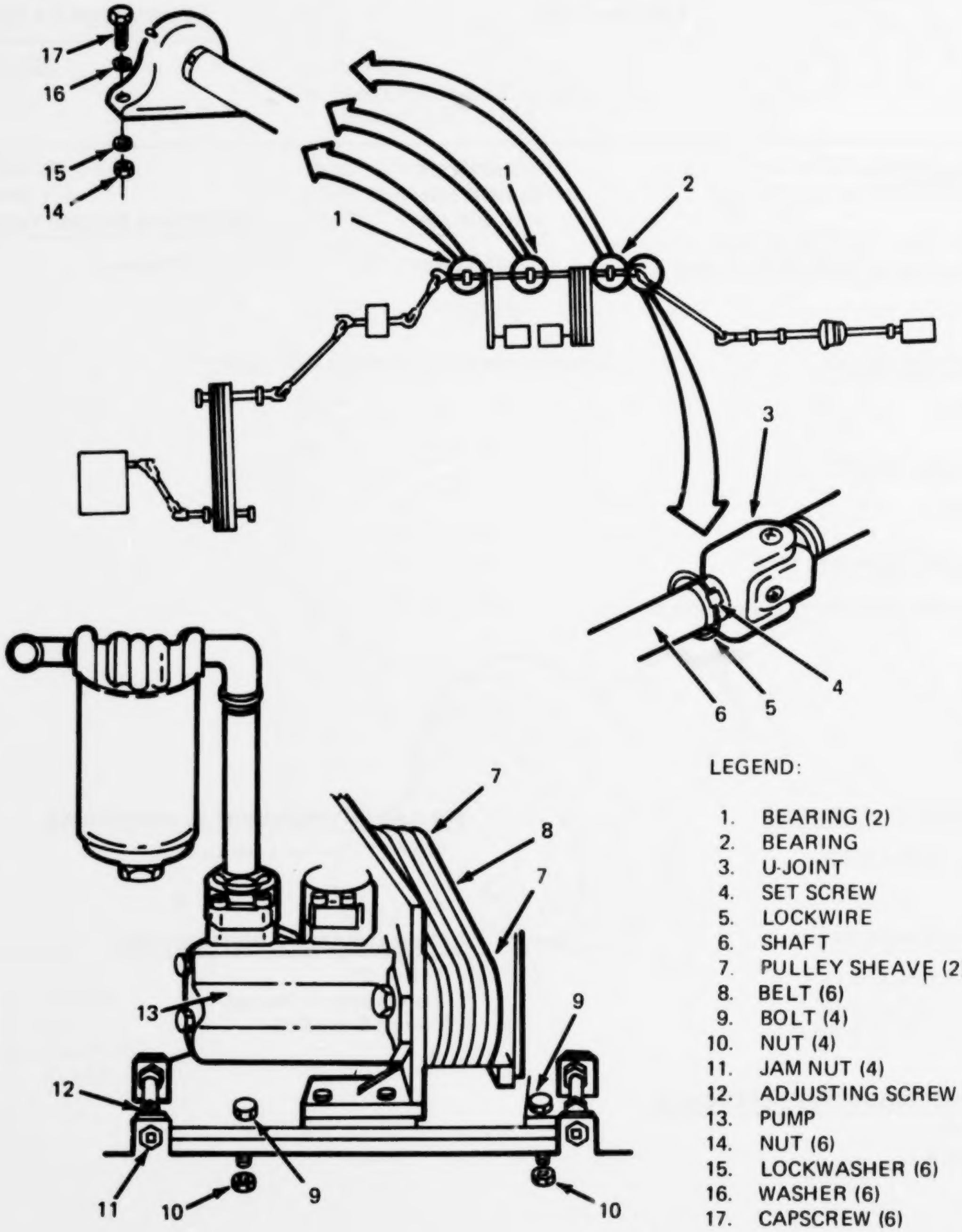
Follow-on maintenance required:

Adjust water pump belts (para 4-16D).
Install tachometer cable (para 10-12B).

POWER TRAIN.

4-17. HYDRAULIC PUMP BELTS MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS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LEGEND:

1. BEARING (2)
2. BEARING
3. U-JOINT
4. SET SCREW
5. LOCKWIRE
6. SHAFT
7. PULLEY SHEAVE (2)
8. BELT (6)
9. BOLT (4)
10. NUT (4)
11. JAM NUT (4)
12. ADJUSTING SCREW (2)
13. PUMP
14. NUT (6)
15. LOCKWASHER (6)
16. WASHER (6)
17. CAPSCREW (6)

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POWER TRAIN.

4-18. MAIN CLUTCH ADJUSTMENT.

THIS TASK COVERS: (APPROXIMATE TIME REQUIRED FOLLOWS TASK DESCRIPTION.)

Clutch Adjustment. (5)

5 Minutes Total.

INITIAL SETUP

APPLICABLE CONFIGURATIONS

M919.

TEST EQUIPMENT

None.

SPECIAL TOOLS

None.

MATERIALS/PARTS (P/N)

Penetrating Oil (Refer to Appendix C).

EQUIPMENT CONDITION PARAGRAPH	CONDITION DESCRIPTION
4-15A Steps 1 & 2.	Covers Removed.

PERSONNEL REQUIRED

One (MOS-62B20).

REFERENCES (TM)

LO 5-3895-572-12.
TM 9-2320-273-10.
TM 5-3895-372-20P.

TROUBLESHOOTING REFERENCES

Table 4-1.

SPECIAL ENVIRONMENTAL CONDITIONS

Vehicle Parked on Level Ground.

GENERAL SAFETY INSTRUCTIONS

Engine Off.
Transmission in Neutral.
Parking Brake Set.

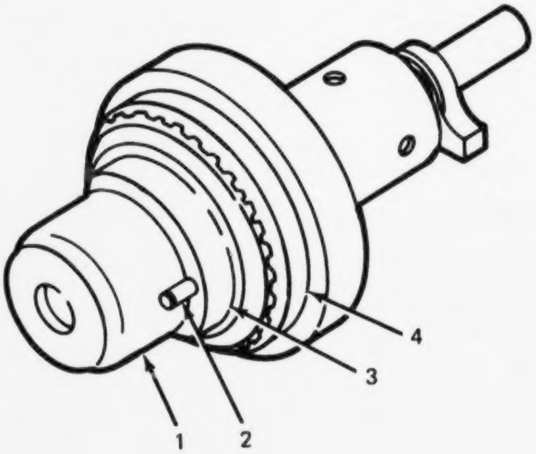
POWER TRAIN.

4-18. MAIN CLUTCH ADJUSTMENT (Continued).

LOCATION/ITEM	ACTION	REMARKS
CLUTCH ADJUSTMENT.		
1. Pin (2).	a. Pull out. b. Insert a small nail or wire through hole in pin.	
2. Plate (4) and cover (1).	Hold plate in place. Turn cover clockwise to tighten clutch.	a. If cover will not turn, put penetrating oil at oil point (3). b. Adjust so clutch lever snaps or locks tight.

NOTE

Clutch will not hold until pin is pushed back in.



LEGEND:

1. COVER
2. PIN
3. OIL POINT
4. PLATE

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4-18. MAIN CLUTCH ADJUSTMENT (Continued).

LOCATION/ITEM	ACTION	REMARKS
CLUTCH ADJUSTMENT (Continued).		
3. Pin (2).	a. Remove nail or wire. b. Turn cover (1) until pin locks into plate (4).	Test under load.

NOTE

If clutch slips quickly out of adjustment, check to see if pin (2) has slipped out of hole. If pin is broken, refer problem to Direct Support Maintenance.

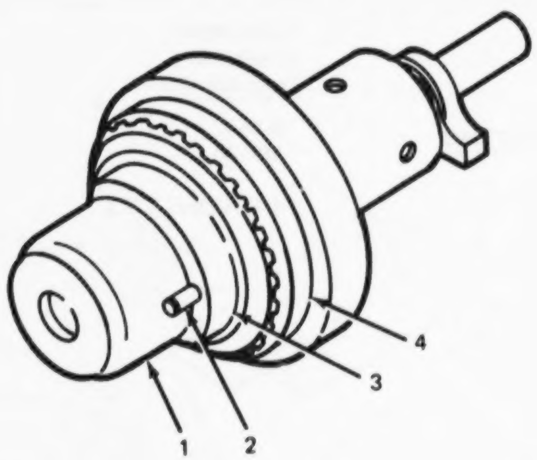
Follow-on maintenance action required:

Install covers (refer to para 4-15, steps 26 and 27).

POWER TRAIN.

4-18. MAIN CLUTCH ADJUSTMENT (Continued).

LOCATION/ITEM	ACTION	REMARKS



LEGEND:

1. COVER
2. PIN
3. OIL POINT
4. PLATE

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4-19. ANGLE DRIVE GEAR BOX MAINTENANCE.

THIS TASK COVERS: (APPROXIMATE TIME REQUIRED FOLLOWS TASK DESCRIPTION.)

a. Removal.	(30)
b. Installation.	(30)
c. Operational Check.	(5)
	65 Minutes Total.

INITIAL SETUP

EQUIPMENT CONDITION PARAGRAPH	CONDITION DESCRIPTION
8-14A.	Cement Register Removed.
10-12A.	Tachometer and Mounting Bracket Removed.
4-15A Steps 1 & 2.	Cover Removed.

APPLICABLE CONFIGURATIONS

M919.

TEST EQUIPMENT

None.

SPECIAL TOOLS

None.

MATERIALS/PARTS (P/N)

Liquid Teflon (Refer to Appendix C).

PERSONNEL REQUIRED

One (MOS-62B20).

REFERENCES (TM)

LO 5-3895-372-12.
TM 9-2320-273-10.
TM 5-3895-372-10.
TM 5-3895-372-20P.

TROUBLESHOOTING REFERENCES

Table 4-1.

SPECIAL ENVIRONMENTAL CONDITIONS

Vehicle Parked on Level Ground.

GENERAL SAFETY INSTRUCTIONS

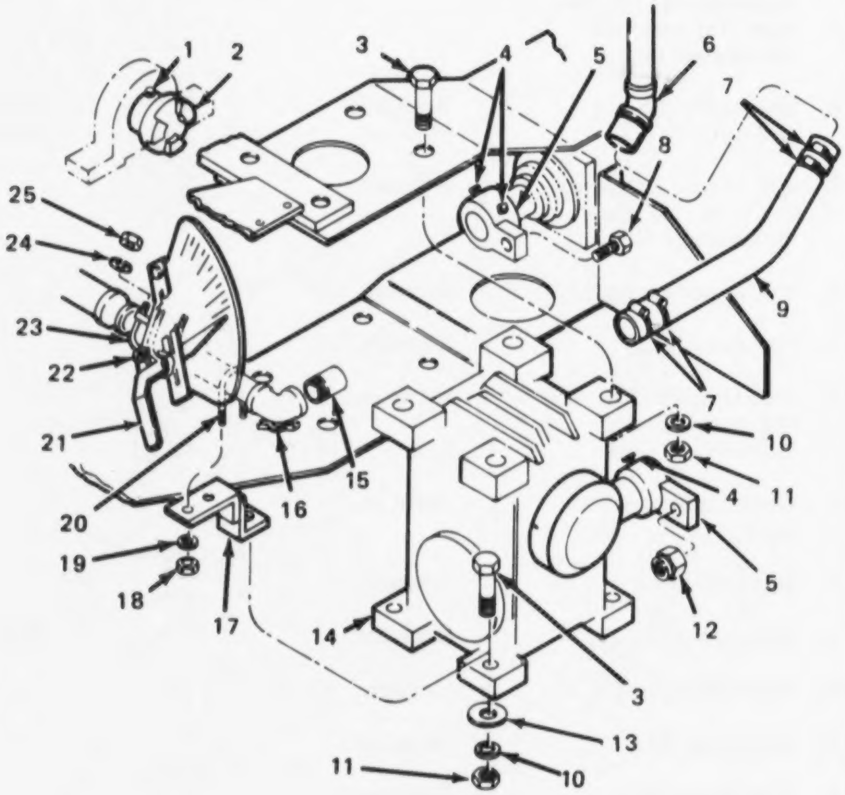
Engine Off.
Transmission in Neutral.
Parking Brake Set.

4-19. ANGLE DRIVE GEAR BOX MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS
A. REMOVAL.		
1. Water control valve lever (21).	Close.	Rotate clockwise.
2. Drain cock (16).	Open.	Use drain pan to catch water.

LEGEND:

1. SETSCREW
2. BOSTON COUPLER
3. HEX BOLT (8)
4. SETSCREW (4)
5. COUPLING
6. PIPE ASSEMBLY
7. CLAMP (4)
8. SHEAR BOLT
9. HOSE
10. LOCKWASHER (8)
11. HEX NUT (8)
12. NUT
13. FLATWASHER (4)
14. GEAR BOX
15. PIPE NIPPLE
16. DRAIN COCK
17. MOUNTING BRACKET
18. HEX NUT (2)
19. LOCKWASHER (2)
20. U-BOLT
21. WATER CONTROL VALVE LEVER
22. HEX NUT
23. U-BOLT (2)
24. LOCKWASHER (4)
25. HEX NUT (4)



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POWER TRAIN.

4-19. ANGLE DRIVE GEAR BOX MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS
A. REMOVAL (Continued).		
3. Four clamps (7).	Loosen.	
4. Hose (9).	Remove.	
5. Pipe nipple (15).	Remove.	
6. Pipe assembly (6).	Swing upward.	For added clearance.
7. Eight hex bolts (3), lockwashers (10), hex nuts (11) and four flatwashers (13).	Remove.	Flatwashers on lower bolts only.
8. Shear bolt (8) and nut (12).	Remove.	Relieve tension on bolt by turning input shaft on gear box.
9. One U-bolt (20), two hex nuts (18) and lockwashers (19).	Remove.	
10. Mounting bracket (17).	Remove.	
11. Hex nut (22).	Remove.	
12. Two U-bolts (23), four hex nuts (25) and lockwashers (24).	Remove.	
13. Water control valve lever.	Remove.	
14. Setscrew (1).	Loosen.	
15. Boston coupler (2).	Separate.	Slide rearward.
16. Four setscrews (4).	Loosen.	
17. Couplings (5).	Separate.	
18. Gear box (14).	Remove.	

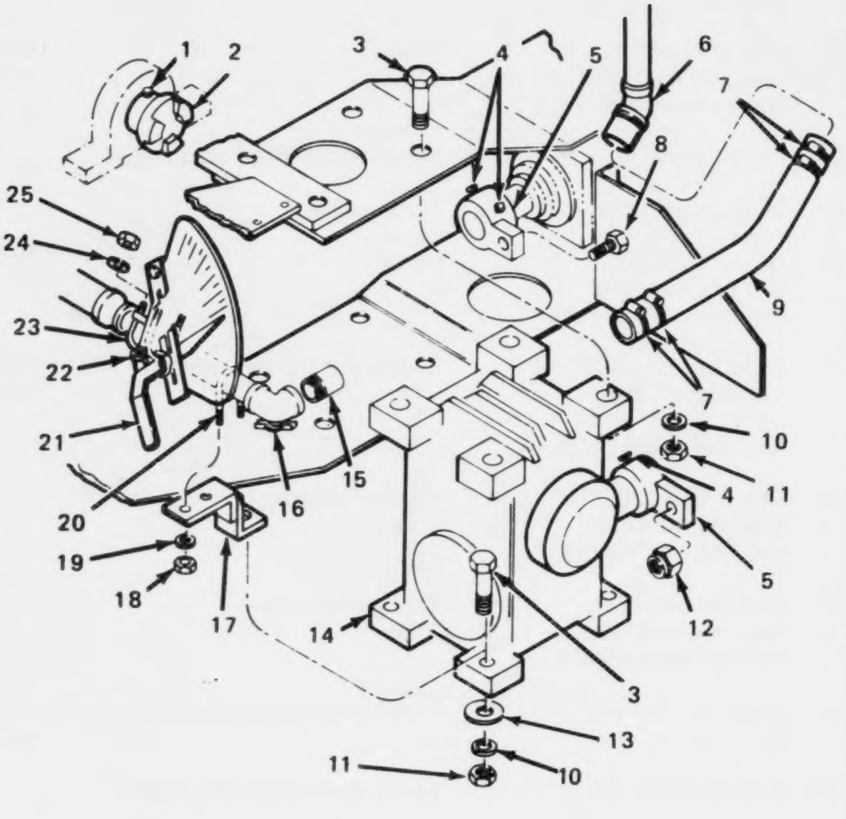
POWER TRAIN.

4-19. ANGLE DRIVE GEAR BOX MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS

LEGEND:

1. SETSCREW
2. BOSTON COUPLER
3. HEX BOLT (8)
4. SETSCREW (4)
5. COUPLING
6. PIPE ASSEMBLY
7. CLAMP (4)
8. SHEAR BOLT
9. HOSE
10. LOCKWASHER (8)
11. HEX NUT (8)
12. NUT
13. FLATWASHER (4)
14. GEAR BOX
15. PIPE NIPPLE
16. DRAIN COCK
17. MOUNTING BRACKET
18. HEX NUT (2)
19. LOCKWASHER (2)
20. U-BOLT
21. WATER CONTROL VALVE LEVER
22. HEX NUT
23. U-BOLT (2)
24. LOCKWASHER (4)
25. HEX NUT (4)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TA 076203

POWER TRAIN.

4-19. ANGLE DRIVE GEAR BOX MAINTENANCE (Continued).

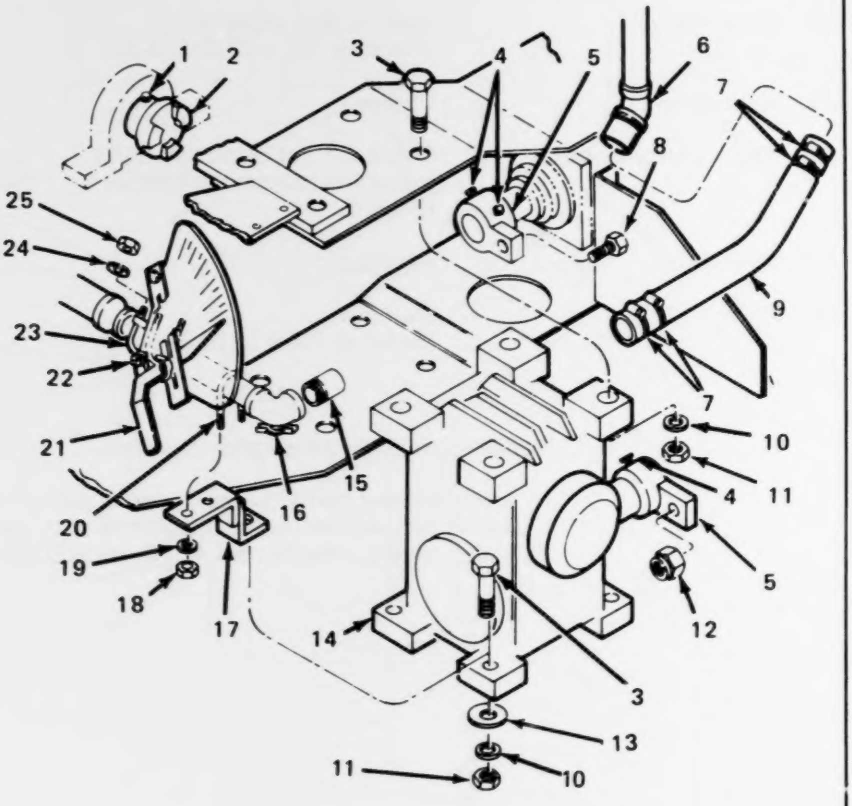
LOCATION/ITEM	ACTION	REMARKS
B. INSTALLATION.		
19. Gear box (14).	Set in place.	
20. Couplings (5).	Slide together.	
21. Boston couplings (2).	Slide into place.	
22. Four setscrews (4).	Tighten securely.	
23. Setscrews (1).	Tighten securely.	
24. Water control valve lever (21).	Set in place.	
25. Two U-bolts (23), four hex nuts (25) and lockwashers (24).	Install.	Do not tighten.
26. Hex nut (22).	Install and tighten securely.	
27. Mounting bracket (17).	Set in place.	
28. One U-bolt (20), two hex nuts (18) and lockwashers (19).	Install.	Do not tighten.
29. Eight hex bolts (3), lockwashers (10), hex nuts (11) and four flatwashers (13).	Install and tighten securely.	Flatwashers on lower bolts only.
30. One U-bolt (20), two hex nuts (18), and lockwashers (19).	Tighten securely.	
31. Two U-bolts (23), four hex nuts (25), and lockwashers (24).	Tighten securely.	
32. Shear bolt (8) and nut (12).	Install and tighten securely.	Aline holes in coupling by turning input shaft on gear box.
33. Pipe assembly (6).	Swing downward into place.	
34. Pipe nipple (15).	Install and tighten.	Coat threads with liquid Teflon.

4-19. ANGLE DRIVE GEAR BOX MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS

LEGEND:

1. SETSCREW
2. BOSTON COUPLER
3. HEX BOLT (8)
4. SETSCREW (4)
5. COUPLING
6. PIPE ASSEMBLY
7. CLAMP (4)
8. SHEAR BOLT
9. HOSE
10. LOCKWASHER (8)
11. HEX NUT (8)
12. NUT
13. FLATWASHER (4)
14. GEAR BOX
15. PIPE NIPPLE
16. DRAIN COCK
17. MOUNTING BRACKET
18. HEX NUT (2)
19. LOCKWASHER (2)
20. U-BOLT
21. WATER CONTROL VALVE LEVER
22. HEX NUT
23. U-BOLT (2)
24. LOCKWASHER (4)
25. HEX NUT (4)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4-19. ANGLE DRIVE GEAR BOX MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS
B. INSTALLATION (Continued).		
35. Hose (9).	Install.	
36. Four clamps (7).	Tighten securely.	
37. Drain cock (16).	Close.	
C. OPERATIONAL CHECK.		
38. Mixer body.	Start up and engage PTO. (Refer to TM 9-2320-273-10.)	
39. Main clutch.	Engage.	
40. Angle drive gear box.	Check for free operation while increasing tachometer rpm up to 1650.	Close sand and stone gates if bins are full.
41. Main clutch.	Disengage.	
42. Mixer body.	Shut down. (Refer to TM 9-2320-273-10.)	

NOTE

Follow-on maintenance action required:

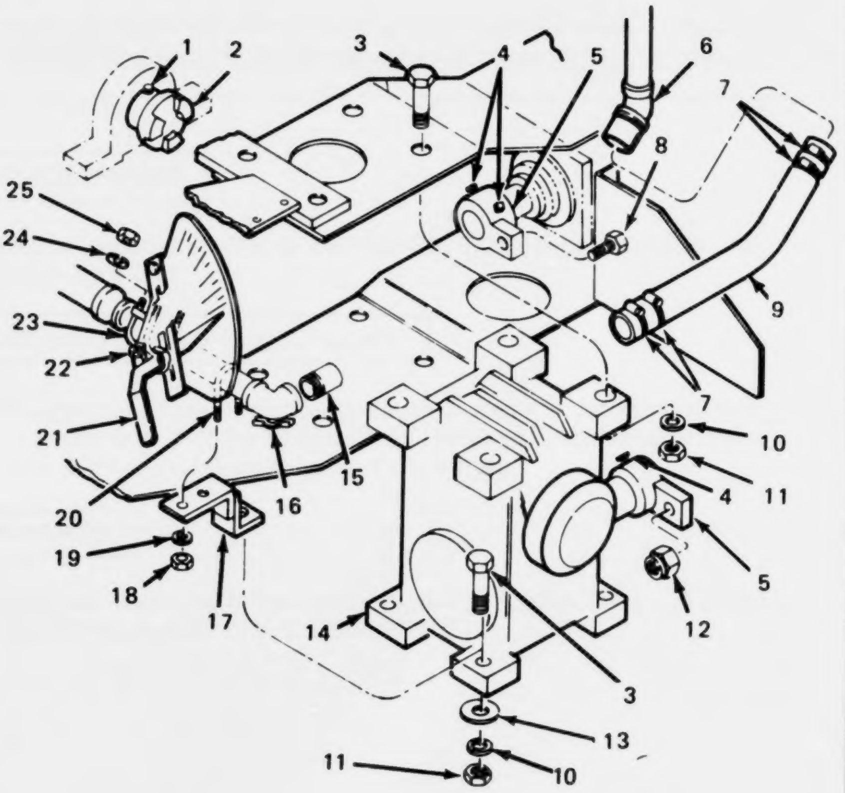
Install cement meter register; refer to para 8-14B.
Install tach and mounting bracket; refer to para 10-12B.
Install covers; refer to para 4-15E, steps 26 and 27.

4-19. ANGLE DRIVE GEAR BOX MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS

LEGEND:

1. SETSCREW
2. BOSTON COUPLER
3. HEX BOLT (8)
4. SETSCREW (4)
5. COUPLING
6. PIPE ASSEMBLY
7. CLAMP (4)
8. SHEAR BOLT
9. HOSE
10. LOCKWASHER (8)
11. HEX NUT (8)
12. NUT
13. FLATWASHER (4)
14. GEAR BOX
15. PIPE NIPPLE
16. DRAIN COCK
17. MOUNTING BRACKET
18. HEX NUT (2)
19. LOCKWASHER (2)
20. U-BOLT
21. WATER CONTROL VALVE LEVER
22. HEX NUT
23. U-BOLT (2)
24. LOCKWASHER (4)
25. HEX NUT (4)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CHAPTER 5

WATER SYSTEM

5-1. OVERVIEW.

This chapter provides you with the following information related to water system maintenance:

a. All required special tools and equipment.

b. Troubleshooting procedures.

c. Maintenance procedures.

Section I REPAIR PARTS, SPECIAL TOOLS, TMDE, AND SUPPORT EQUIPMENT

5-2. COMMON TOOLS AND EQUIPMENT.

For authorized common tools and equipment, refer to the Modified Table of Organization and Equipment (MTOE) applicable to your unit.

5-3. SPECIAL TOOLS, TMDE, AND SUPPORT EQUIPMENT.

The special tools, TMDE, and support equipment for maintenance procedures described in this chapter are limited to water pressure gage, 0-75 psi (0-500 kPa). (Refer to Organizational Maintenance RPSTL, TM 5-3895-372-20P for tool description and illustration.)

5-4. SPARES AND REPAIR PARTS.

Spares and repair parts are listed and illustrated in the Repair Parts and Special Tools List covering Organizational Maintenance for this equipment (TM 5-3895-372-20P).

Section II TROUBLESHOOTING

5-5. INTRODUCTION.

Troubleshooting procedures for the water system are given in table 5-1. It is arranged by malfunctions, in the following order:

a. Mix water does not flow at a steady rate (Malfunction No. 1).

b. Water line valves leak (Malfunction No. 2).

c. Quick-opening valve sticks (Malfunction No. 3).

Most water system problems are caused by dirt or ice in the water lines. If you find sediment, remind the operator to use clean water and to use the inlet strainer when filling the tank.

Freezing damage could occur. Caution operator to open draincocks and blow water out of system when he is finished with cleanup. Check for clogged draincocks.

Table 5-1. Water System Troubleshooting Procedures.

MALFUNCTION

TEST OR INSPECTION

CORRECTIVE ACTION

1. MIX WATER DOES NOT FLOW AT A STEADY RATE:

Step 1. Check that:

a. Tank is filled.

b. Water shutoff valve is open.

Fill tank, open valve.

Step 2. Check water pump V-belt tension. Belt should deflect 9/64 in. (3.6 mm) when 6 lbs (27 N) pressure is applied.

Adjust belt (para 4-16D).

Step 3. Check that tachometer reads 1620-1720 rpm.

Use throttle to adjust pump speed.

Step 4. Check for dirt or sediment in water tank.

Flush system with clean water.

Step 5. Check for blocked strainer.

Clean strainer (para 5-8).

Step 6. Check water lines for leaks.

Replace leaking lines (para 5-12).

Step 7. Check water system pressure.

Adjust pressure relief valve (TM 5-3895-372-10).

Table 5-1. Water System Troubleshooting Procedures (Continued).

MALFUNCTION

TEST OR INSPECTION

CORRECTIVE ACTION

1. MIX WATER DOES NOT FLOW AT A STEADY RATE (Continued):

NOTE

If a pressure gage is not available, adjust pressure so that water can be sprayed about 35 ft with washout hose.

Step 8. Check for air trapped in water lines.

Bleed air by squirting water from the washout hose until it flows in a steady stream.

Step 9. If temperature is below 32°F (0°C) check for frozen water lines.

a. Open draincocks.

b. Apply heat to melt ice.

c. When system is free of ice, close draincocks.

2. WATER LINE VALVES LEAK:

a. Engage PTO. Pump speed should be 1620-1720 rpm.

b. Check each valve for leakage.

Replace leaking valves (para 5-12 & 5-13).

3. QUICK-OPENING VALVE STICKS:

Step 1. Check for sticking or binding as valve is opened and closed.

a. Lubricate valve stem with engine oil. Repack rubber boot, if necessary.

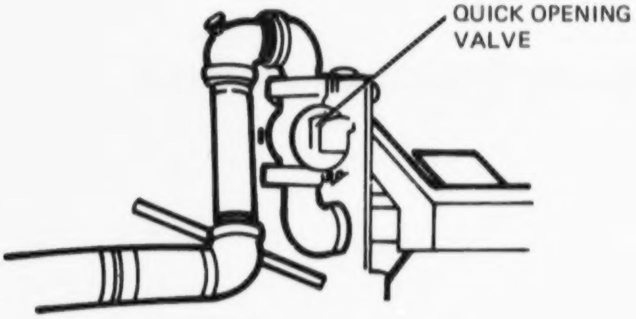
Table 5-1. Water System Troubleshooting Procedures (Continued).

MALFUNCTION

TEST OR INSPECTION

CORRECTIVE ACTION

3. QUICK-OPENING VALVE STICKS (Continued):



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b. Check tightness of packing nut.

(1) Tighten nut until valve sticks.

(2) Back it off just until valve works freely.

Step 2. Check for sediment blocking valve.

a. Flush system with clean water.

b. Clean strainer screen (see para 5-8).

Section III MAINTENANCE PROCEDURES

5-6. INTRODUCTION.

This section provides you with Organizational Level maintenance procedures for the water system of the mixer body. Paragraph 5-7 summarizes the maintenance tasks. Paragraphs 5-8 thru 5-16 contain detailed instructions for each task.

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WATER SYSTEM.

5-7. WATER SYSTEM MAINTENANCE TASK SUMMARY.

INITIAL SETUP

APPLICABLE CONFIGURATIONS

M919.

TEST EQUIPMENT

None.

SPECIAL TOOLS

Eye Bolt (4).
Chain Bridle, Four Leg.
1500 Lb Hoist.

EQUIPMENT CONDITION PARAGRAPH	CONDITION DESCRIPTION
5-12A.	Shutoff Valve Closed.
TM 5-3895-372-10.	Water Pump Drained.
5-9A.	Pump Removed.
5-14A.	Water Tank Removed.

MATERIALS/PARTS (P/N)

Soap Solution (Refer to Appendix C).
Liquid Teflon (Refer to Appendix C).
Dry Cleaning Solvent (Refer to Appendix C).
Lockwire (Refer to Appendix C).
Strainer Gasket, NP3703004 (50663).

Water Pump:
- Seal, 1, 9501-3 (94001).
- O-Ring, 1, 1720-83 (94001).
- Seal Retainer, 1, 1830-40 (94001).
- Slinger Ring, 1, 1410A-56 (94001).

PERSONNEL REQUIRED

Two (MOS-62B20).

REFERENCES (TM)

TM 5-3895-372-20P.
TM 5-3895-372-10.
TM 9-2320-273-10.

SPECIAL ENVIRONMENTAL CONDITIONS

Vehicle Parked on Level Ground.

GENERAL SAFETY INSTRUCTIONS

Engine Off.
Transmission in Neutral.
Parking Brake Set.

LIST OF TASKS

TASK NO.	TASK	TASK REF	TROUBLESHOOTING REF (TABLE)
1.	Strainer Maintenance:	5-8	5-1
	a. Removal.	5-8A	
	b. Cleaning and Inspection.	5-8B	
	c. Installation.	5-8C	
2.	Water Pump Maintenance:	5-9	5-1
	a. Removal.	5-9A	
	b. Installation.	5-9B	
	c. Adjustment.	5-9C	

WATER SYSTEM.

5-7. WATER SYSTEM MAINTENANCE TASK SUMMARY (Continued).

LIST OF TASKS

TASK NO.	TASK	TASK REF	TROUBLESHOOTING (REF (TABLE)
3.	Water Pump Repair:	5-10	5-1
	a. Disassembly.	5-10A	
	b. Inspection.	5-10B	
	c. Assembly.	5-10C	
4.	Sight Gage Maintenance:	5-11	5-1
	a. Removal.	5-11A	
	b. Cleaning.	5-11B	
	c. Installation.	5-11C	
5.	Valves and Water Lines Maintenance:	5-12	5-1
	a. Removal.	5-12A	
	b. Inspection.	5-12B	
	c. Installation.	5-12C	
	d. Checking for Leaks.	5-12D	
6.	Flow Control Valve Maintenance:	5-13	5-1
	a. Removal.	5-13A	
	b. Installation.	5-13B	
	c. Operational Check.	5-13C	
7.	Water Tank Maintenance:	5-14	5-1
	a. Removal.	5-14A	
	b. Repair.	5-14B	
	c. Installation.	5-14C	
	d. Operational Check.	5-14D	
8.	Water Tank Components Maintenance:	5-15	5-1
	a. Removal.	5-15A	
	b. Installation.	5-15B	
9.	Water Tank Sub-Frames Maintenance:	5-16	5-1
	a. Removal.	5-16A	
	b. Installation.	5-16B	

WATER SYSTEM.

5-8. STRAINER MAINTENANCE.

THIS TASK COVERS: (APPROXIMATE TIME REQUIRED FOLLOWS TASK DESCRIPTION.)

a. Removal.	(5)
b. Cleaning and Inspection.	(10)
c. Installation.	(5)
	20 Minutes Total.

INITIAL SETUP

EQUIPMENT CONDITION PARAGRAPH	CONDITION DESCRIPTION
None.	None.

APPLICABLE CONFIGURATIONS

M919.

TEST EQUIPMENT

None.

SPECIAL TOOLS

None.

MATERIALS/PARTS (P/N)

Soap Solution (Refer to Appendix C).

PERSONNEL REQUIRED

One (MOS-62B20).

REFERENCES (TM)

TM 5-3895-372-10.
TM 5-3895-372-20P.
TM 9-2320-273-10.

TROUBLESHOOTING REFERENCES

Table 5-1.

SPECIAL ENVIRONMENTAL CONDITIONS

Vehicle Parked on Level Ground.

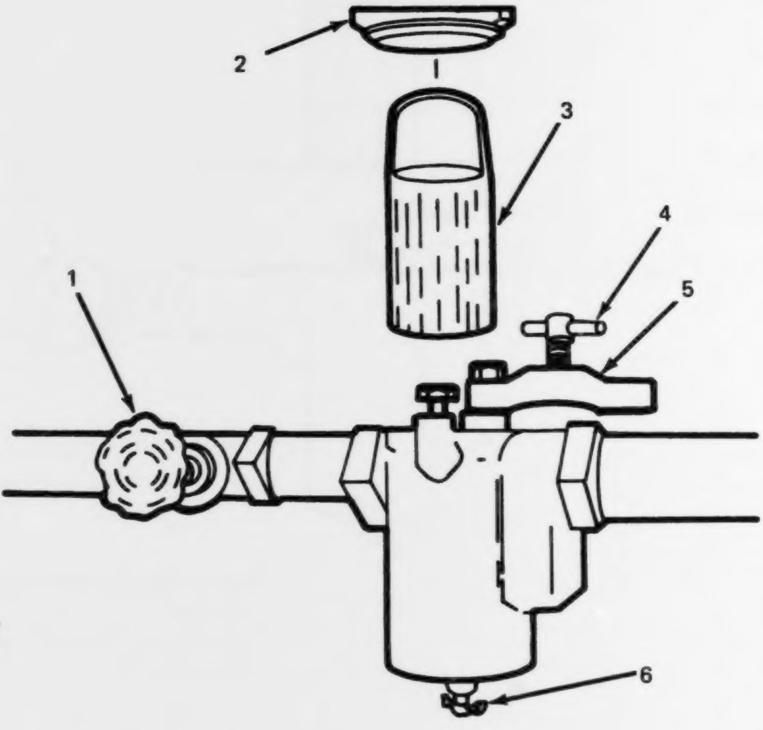
GENERAL SAFETY INSTRUCTIONS

Engine Off.
Transmission in Neutral.
Parking Brake Set.

WATER SYSTEM.

5-8. STRAINER MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS
A. REMOVAL.		
1. Water shutoff valve (1).	Close.	
2. Draincock (6).	Open.	
3. T-handle (4).	Turn counterclockwise.	
4. Clamp (5).	Swing aside.	
5. Cap (2).	Lift off.	
6. Strainer (3).	Lift out.	



LEGEND:

1. WATER SHUT OFF VALVE
2. CAP
3. STRAINER
4. T-HANDLE
5. CLAMP
6. DRAIN COCK

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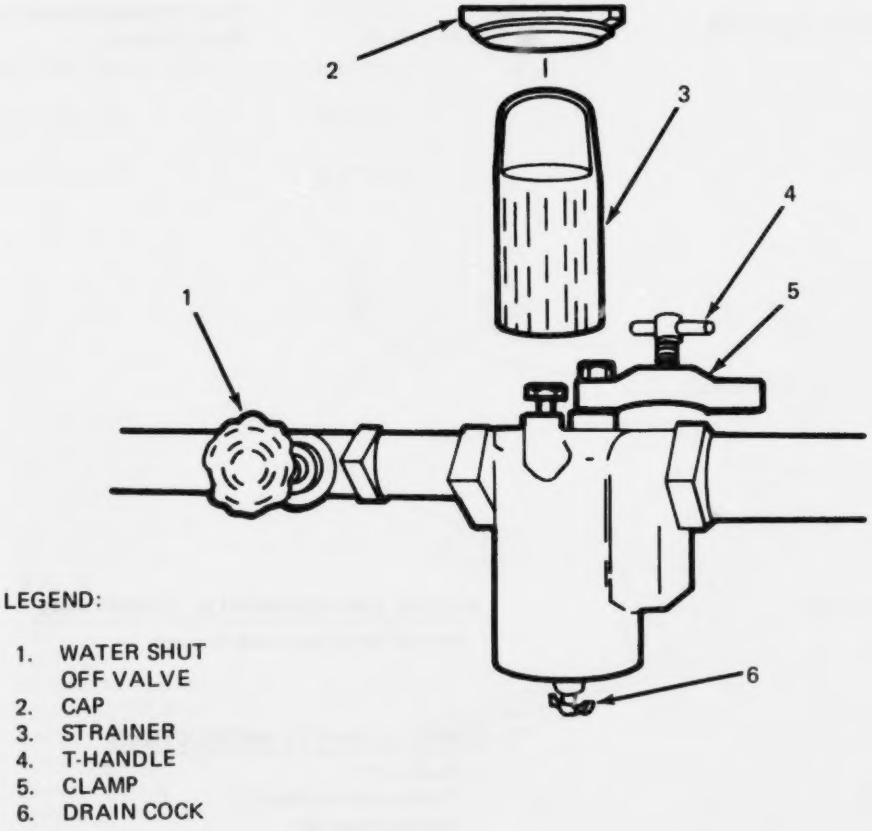
WATER SYSTEM.

5-8. STRAINER MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS
B. CLEANING AND INSPECTION.		
7. Strainer (3).	a. Shake off large pieces of dirt. b. Clean with soap and water and brush. c. Allow to dry. d. Inspect for holes.	 If it can't be cleaned, replace.
8. Water shutoff valve (1).	Open slightly. When all dirt is rinsed out of strainer housing, close.	
C. INSTALLATION.		
9. Strainer (3).	Place in position.	
10. Cap (2).	Put on.	
11. Bracket (5).	Swing into place.	
12. T-handle (4).	Turn clockwise to tighten.	
13. Draincock (6).	Close.	
14. Water shutoff valve (1).	Open. Check for leaks.	

5-8. STRAINER MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS



LEGEND:

1. WATER SHUT OFF VALVE
2. CAP
3. STRAINER
4. T-HANDLE
5. CLAMP
6. DRAIN COCK

TA 076208

WATER SYSTEM.

5-9. WATER PUMP MAINTENANCE.

THIS TASK COVERS: (APPROXIMATE TIME REQUIRED FOLLOWS TASK DESCRIPTION.)

a. Removal.	(30)
b. Installation.	(30)
c. Adjustment.	(15)
	75 Minutes Total.

INITIAL SETUP

APPLICABLE CONFIGURATIONS

M919.

TEST EQUIPMENT

None.

SPECIAL TOOLS

None.

MATERIALS/PARTS (P/N)

Liquid Teflon (Refer to Appendix C).

EQUIPMENT CONDITION PARAGRAPH	CONDITION DESCRIPTION
5-12A.	Shut Off Valve Closed.
TM 9-2320-273-10.	Pump Drained.

PERSONNEL REQUIRED

One (MOS-62B20).

REFERENCES (TM)

TM 9-2320-273-10.
TM 5-3895-372-20P.

TROUBLESHOOTING REFERENCES

Table 5-1.

SPECIAL ENVIRONMENTAL CONDITIONS

Vehicle Parked on Level Ground.

GENERAL SAFETY INSTRUCTIONS

Engine Off.
Transmission in Neutral.
Parking Brake Set.

WATER SYSTEM.

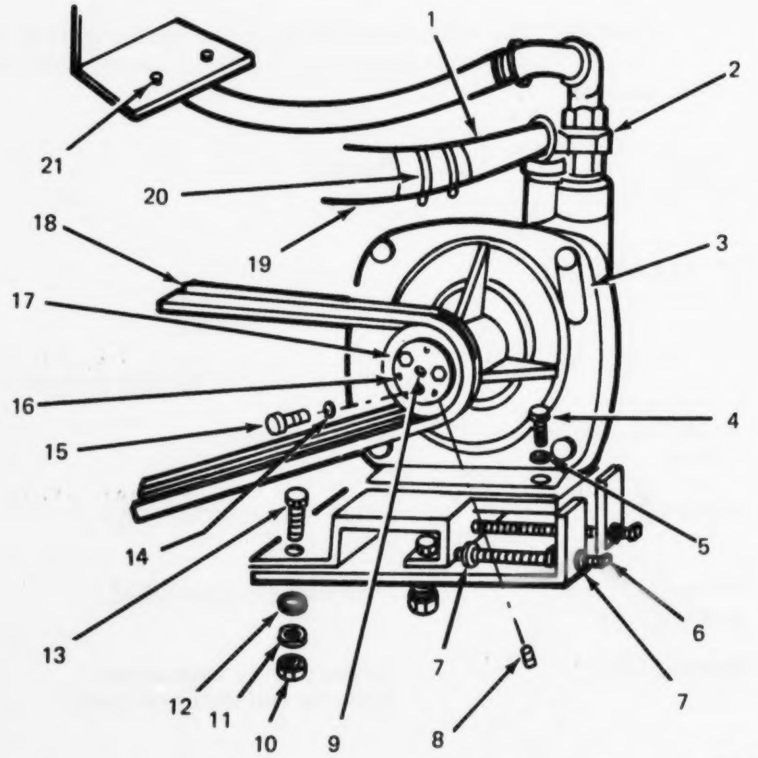
5-9. WATER PUMP MAINTENANCE (Continued).

A. REMOVAL.

LOCATION/ITEM	ACTION	REMARKS
1. Two hex nuts (10).	Loosen.	
2. Two U-bolt hex nuts (21).	Loosen.	
3. Four hex nuts (7).	Loosen.	
4. Water pump (3).	Slide inward to release belt tension.	Tap with rawhide mallet.
5. Two V-belts (18).	Remove.	
6. Two hose clamps (20).	Loosen.	
7. Inlet hose (19).	Remove.	
8. Union ring (2).	Remove.	

LEGEND:

1. INLET NIPPLE
2. UNION RING
3. WATER PUMP
4. CAPSCREW (2)
5. LOCKWASHER (2)
6. SETSCREW (2)
7. NUT (4)
8. SETSCREW
9. KEY
10. NUT (2)
11. LOCKWASHER (2)
12. FLAT WASHER (2)
13. CAPSCREW (2)
14. LOCKWASHER (3)
15. CAPSCREW (3)
16. BUSHING
17. SHEAVE
18. V-BELT (2)
19. INLET HOSE
20. HOSE CLAMP (2)
21. NUT (2)



TA 076209

5-9. WATER PUMP MAINTENANCE (Continued).

A. REMOVAL (Continued).

LOCATION/ITEM	ACTION	REMARKS
9. Two hex head capscrews (4) and lockwashers (5).	Remove.	
10. Water pump (3).	Remove and place on work bench.	Allow excessive water to drain.
11. Three capscrews (15) and lockwashers (14).	Remove.	
12. Three capscrews (15) and lockwashers (14).	Install in three tapped holes in bushing (16).	Tighten evenly until sheave (17) and bushing (16) separate.
13. Setscrew (8).	Remove.	
14. Bushing (16), key (9) and sheave (17).	Remove.	

NOTE

Mark attaching nipple and fittings before removing. This will aid in assembling them in their proper places, and the directions at which they point, at time of assembly.

LOCATION/ITEM	ACTION	REMARKS
15. Attaching nipples and fittings.	Remove.	Clamp pump in vise.

B. INSTALLATION.

NOTE

Apply liquid teflon to all pipe threads.

LOCATION/ITEM	ACTION	REMARKS
16. Attaching nipples and fittings.	Install and tighten.	Clamp pump in vise.
17. Woodruff key (9).	Install in keyway in pump shaft.	
18. Sheave (17) and bushing (16).	Assemble and aline holes.	
19. Bushing (16).	Spread slightly with screwdriver tip and install on shaft.	

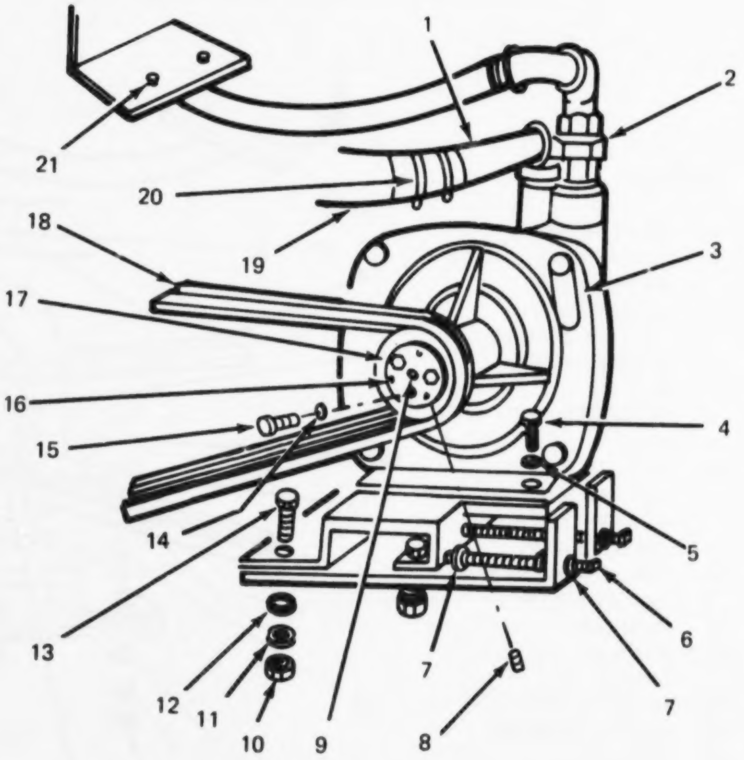
WATER SYSTEM.

5-9. WATER PUMP MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS
B. INSTALLATION (Continued).		
20. Three capscrews (15) and lockwashers (14).	Install. Tighten securely.	
21. Setscrew (8).	Install and tighten.	
22. Water pump (3).	Place in vehicle and aline mounting holes.	
23. Two capscrews (4) and lockwashers (5).	Install. Tighten securely.	
24. Union ring (2).	Coat union faces and threads with liquid teflon. Install ring (2) and tighten.	

LEGEND:

1. INLET NIPPLE
2. UNION RING
3. WATER PUMP
4. CAPSCREW (2)
5. LOCKWASHER (2)
6. SETSCREW (2)
7. NUT (4)
8. SETSCREW
9. KEY
10. NUT (2)
11. LOCKWASHER (2)
12. FLAT WASHER (2)
13. CAPSCREW (2)
14. LOCKWASHER (3)
15. CAPSCREW (3)
16. BUSHING
17. SHEAVE
18. V-BELT (2)
19. INLET HOSE
20. HOSE CLAMP (2)
21. NUT (2)



TA 076210

WATER SYSTEM.

5-9. WATER PUMP MAINTENANCE (Continued).

B. INSTALLATION (Continued).

LOCATION/ITEM	ACTION	REMARKS
25. Hose (19).	Install.	
26. Hose clamps (20).	Slide into position and tighten.	
27. V-belts (18).	Install.	

C. ADJUSTMENT.

28. Refer to para 4-11.

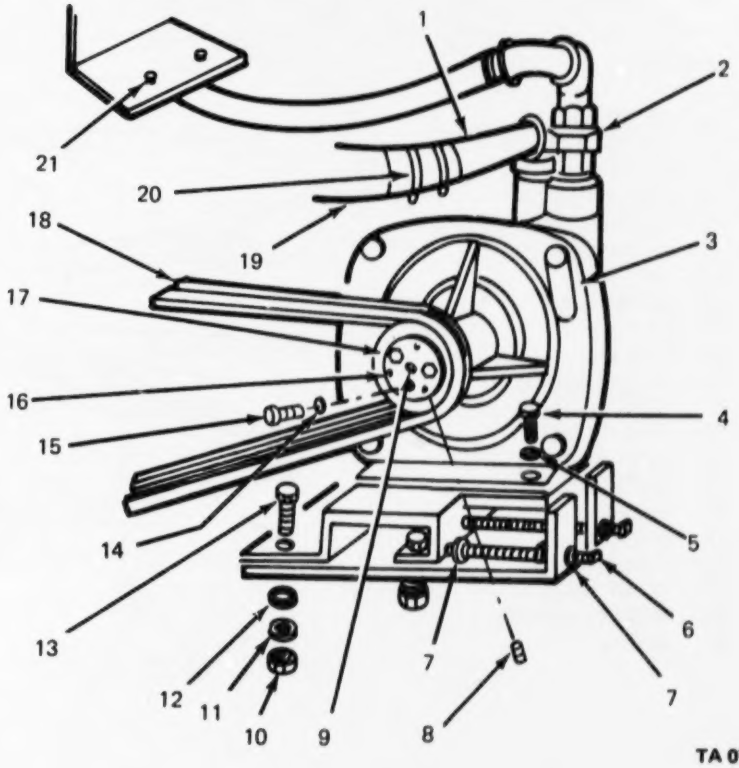
NOTE

Follow-on maintenance action required:

a. Close water pump draincock. Refer to TM 5-3895-372-10.
b. Open shut-off valve. Refer to para 5-12.

LEGEND:

1. INLET NIPPLE
2. UNION RING
3. WATER PUMP
4. CAPSCREW (2)
5. LOCKWASHER (2)
6. SETSCREW (2)
7. NUT (4)
8. SETSCREW
9. KEY
10. NUT (2)
11. LOCKWASHER (2)
12. FLAT WASHER (2)
13. CAPSCREW (2)
14. LOCKWASHER (3)
15. CAPSCREW (3)
16. BUSHING
17. SHEAVE
18. V-BELT (2)
19. INLET HOSE
20. HOSE CLAMP (2)
21. NUT (2)



TA 076211

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WATER SYSTEM.

5-10. WATER PUMP REPAIR.

THIS TASK COVERS: (APPROXIMATE TIME REQUIRED FOLLOWS TASK DESCRIPTION.)

a. Disassembly.	(30)
b. Inspection.	(10)
c. Assembly.	(30).
	70 Minutes Total

INITIAL SETUP

EQUIPMENT CONDITION PARAGRAPH	CONDITION DESCRIPTION
5-9A.	Pump Removed.

APPLICABLE CONFIGURATIONS

M919.

TEST EQUIPMENT

None.

SPECIAL TOOLS

None.

MATERIALS/PARTS (P/N)

Seal, 1, 9501-3 (94001).
O-Ring, 1, 1720-83 (94001).
Seal, 1, 9501-4 (94001).
Slinger Ring, 1, 1410-56 (94001).

PERSONNEL REQUIRED

One (MOS-62B20).

REFERENCES (TM)

TM 9-2320-273-10.
TM 5-3895-372-20P.

TROUBLESHOOTING REFERENCES

Table 5-1.

SPECIAL ENVIRONMENTAL CONDITIONS

Vehicle Parked on Level Ground.

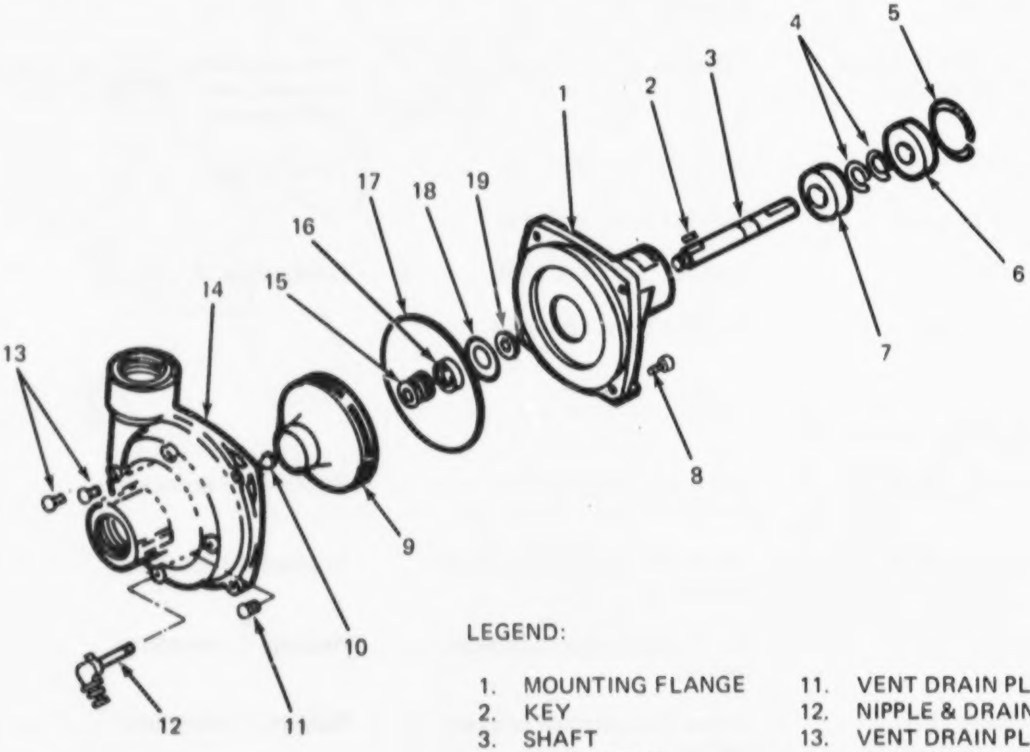
GENERAL SAFETY INSTRUCTIONS

Engine Off.
Transmission in Neutral.
Parking Brake Set.

WATER SYSTEM.

5-10. WATER PUMP REPAIR (Continued).

LOCATION/ITEM	ACTION	REMARKS
A. DISASSEMBLY.		
1. Nipple and draincock (12).	Remove.	
2. Four capscrews (8).	Remove.	
3. Pump casing (14).	Remove.	Tap with soft head hammer to break seal if required.
4. O-ring (17).	Remove.	Discard.
5. Mounting flange (1).	Clamp in vise.	
6. Impeller nut (10).	Remove.	



LEGEND:

1. MOUNTING FLANGE
2. KEY
3. SHAFT
4. SNAPRING (2)
5. SNAPRING
6. BEARING
7. BEARING
8. CAPSCREW (4)
9. IMPELLER
10. IMPELLER NUT
11. VENT DRAIN PLUG
12. NIPPLE & DRAIN COCK
13. VENT DRAIN PLUG
14. PUMP CASING
15. SEAL
16. SEAL
17. O-RING
18. SEAL RETAINER
19. SLINGER RING

TA 076212

WATER SYSTEM.

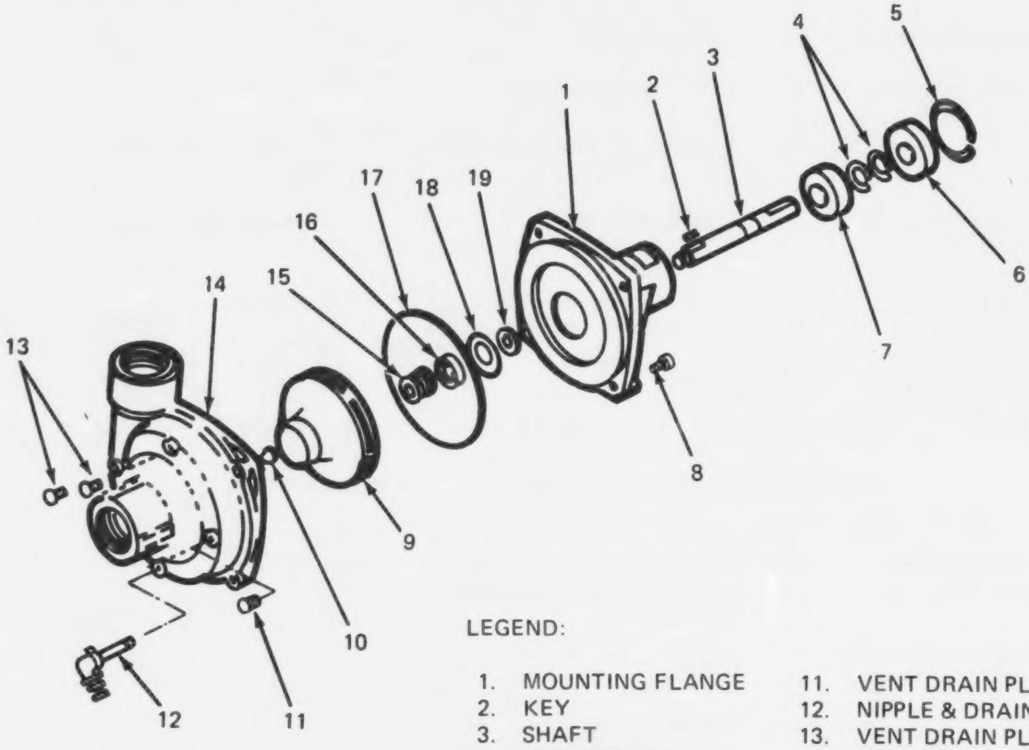
5-10. WATER PUMP REPAIR (Continued).

LOCATION/ITEM	ACTION	REMARKS
A. DISASSEMBLY (Continued).		
7. Impeller (9).	Remove.	Pry up with two small pry bars, 180° apart, to break loose from shaft.
8. Shaft key (2).	Remove.	
9. Seals (15) and (16).	Remove.	Discard.
10. Seal retainer (18).	Remove.	
11. Slinger ring (19).	Remove.	Discard.
12. Snap ring (5).	Remove.	
13. Shaft (3) with bearings (6) and (7) and snap rings (4).	Remove.	Remove components by tapping threaded end of shaft with soft head hammer.
14. Bearing (7).	Remove from shaft (3).	Using press.
15. Two snap rings (4).	Remove from shaft (3).	
16. Bearing (6).	Remove from shaft (3).	Using press.
17. Vent drain plugs (13) and (11).	Remove if necessary.	
B. INSPECTION.		
18. Bearings (7) and (6).	Check for roughness in rotation.	Replace if necessary.
19. Mounting flange (1).	Check for cracks or chipped casting.	Replace if necessary.
20. Impeller (9).	Check for cracks or broken casting.	Replace if necessary.
21. Pump casing (14).	Check for cracks or broken casting.	Replace if necessary.
C. ASSEMBLY.		
22. Mounting flange (1).	Remove from vise.	Set in press impeller side down.
23. Slinger ring (19).	Install in mounting flange (1).	

WATER SYSTEM.

5-10. WATER PUMP REPAIR (Continued).

LOCATION/ITEM	ACTION	REMARKS



LEGEND:

1. MOUNTING FLANGE
2. KEY
3. SHAFT
4. SNAPRING (2)
5. SNAPRING
6. BEARING
7. BEARING
8. CAPSCREW (4)
9. IMPELLER
10. IMPELLER NUT
11. VENT DRAIN PLUG
12. NIPPLE & DRAIN COCK
13. VENT DRAIN PLUG
14. PUMP CASING
15. SEAL
16. SEAL
17. O-RING
18. SEAL RETAINER
19. SLINGER RING

TA 076213

WATER SYSTEM.

5-10. WATER PUMP REPAIR (Continued).

LOCATION/ITEM	ACTION	REMARKS
C. ASSEMBLY (Continued).		
24. Bearing (7).	Install in mounting flange (1).	Tap on outer race only with punch and hammer.
25. Mounting flange (1).	Clamp in vise.	
26. Two snap rings (4).	Install on shaft (3).	
27. Shaft (3).	Install until snap ring (4) is against bearing (7).	Threaded end toward impeller end.
28. Mounting flange (1) and shaft (3).	Install in press.	Threaded shaft supported.
29. Bearing (6).	Press bearing (6) onto shaft (3) and mounting flange (1).	Use press.
30. Snap ring (5).	Install.	

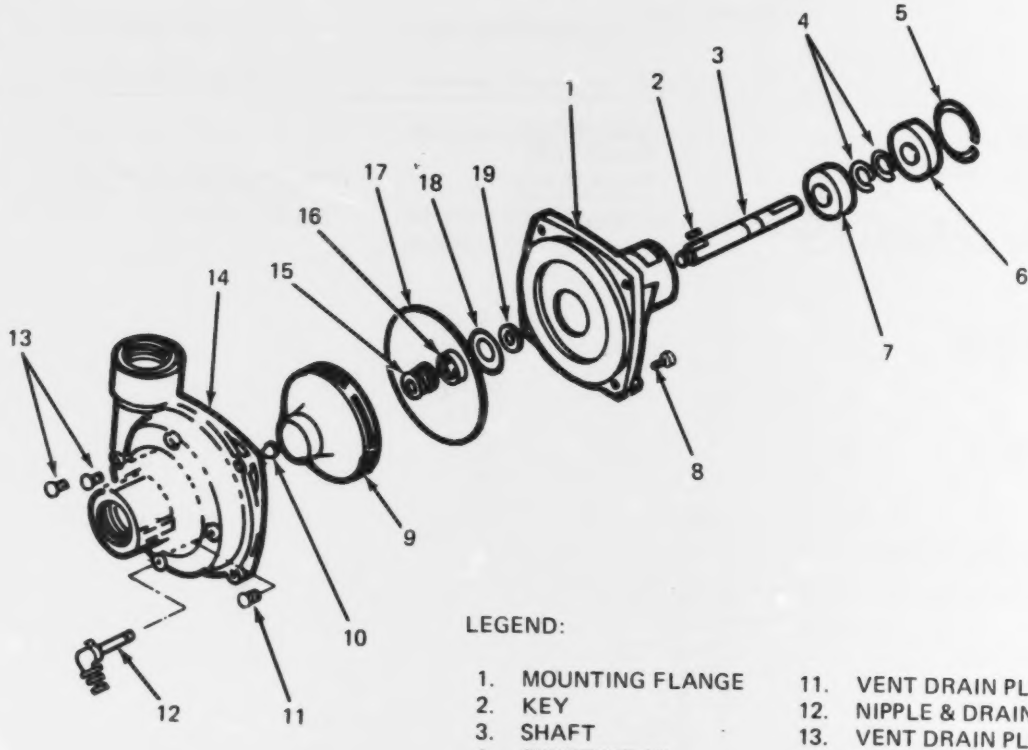
NOTE

Lubricate seals with a light coat of oil prior to installation.

LOCATION/ITEM	ACTION	REMARKS
31. Seal retainer (18) and seal (16).	Install seal retainer (18) into seal(s) and press into mounting flange (1).	
32. Seal (15).	Install.	
33. Key (2).	Install.	
34. Impeller (9).	Install.	
35. Impeller nut (10).	Install.	Torque to 40-50 lb-in (5-7 N·m).
36. O-ring (17).	Install.	
37. Pump casing (14).	Install.	
38. Four capscrews (8).	Install.	Torque to 31 lb-ft (42 N·m).
39. Vent drain plugs (13) and (11).	Install.	
40. Nipple and draincock (12).	Install.	
41. Water pump.	Remove from vise.	
42. Water pump.	Install.	Refer to para 5-9.

5-10. WATER PUMP REPAIR (Continued).

LOCATION/ITEM	ACTION	REMARKS



LEGEND:

1. MOUNTING FLANGE
2. KEY
3. SHAFT
4. SNAPRING (2)
5. SNAPRING
6. BEARING
7. BEARING
8. CAPSCREW (4)
9. IMPELLER
10. IMPELLER NUT
11. VENT DRAIN PLUG
12. NIPPLE & DRAIN COCK
13. VENT DRAIN PLUG
14. PUMP CASING
15. SEAL
16. SEAL
17. O-RING
18. SEAL RETAINER
19. SLINGER RING

TA 076214

WATER SYSTEM.

5-11. SIGHT GAGE MAINTENANCE.

THIS TASK COVERS: (APPROXIMATE TIME REQUIRED FOLLOWS TASK DESCRIPTION.)

a. Removal.	(10)
b. Cleaning.	(10)
c. Installation.	(10)
	30 Minutes Total.

INITIAL SETUP

EQUIPMENT CONDITION PARAGRAPH	CONDITION DESCRIPTION
None.	None.

APPLICABLE CONFIGURATIONS

M919.

TEST EQUIPMENT

None.

SPECIAL TOOLS

None.

MATERIALS/PARTS (P/N)

Dry Cleaning Solvent SD-2 (Refer to Appendix C).

PERSONNEL REQUIRED

One (MOS-62B20).

SPECIAL ENVIRONMENTAL CONDITIONS

Vehicle Parked on Level Ground.

REFERENCES (TM)

TM 9-2320-273-10.
TM 5-3895-372-20P.
TM 5-3895-372-10.

GENERAL SAFETY INSTRUCTIONS

Engine Off.
Transmission in Neutral.
Parking Brake Set.

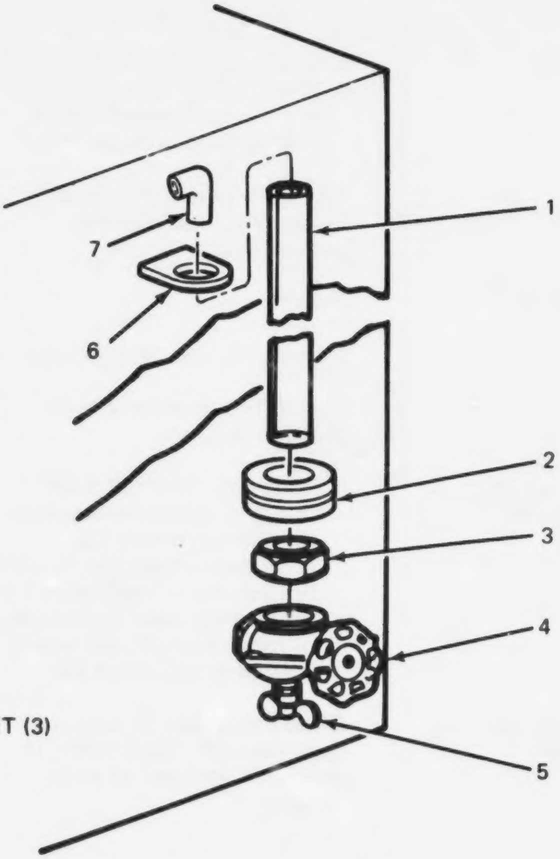
TROUBLESHOOTING REFERENCES

Table 5-1.

5-11. SIGHT GAGE MAINTENANCE (Continued).

A. REMOVAL.

LOCATION/ITEM	ACTION	REMARKS
1. Gage valve (4).	Turn handle clockwise to close.	
2. Draincock (5).	Open and drain gage tube (1).	
3. Gage collar nut (3).	Unscrew from gage valve (4).	
4. Gage tube (1).	Remove from gage valve (4).	Remove by lifting up through three gage tube brackets (6).
5. Three grommets (2).	Remove from three gage tube brackets (6).	Replace if deteriorated.



LEGEND:

1. GAGE TUBE
2. GROMMET (3)
3. GAGE COLLAR NUT
4. GAGE VALVE
5. DRAIN COCK
6. GAGE TUBE BRACKET (3)
7. AIR VENT

TA 076215

5-11. SIGHT GAGE MAINTENANCE (Continued)

B. CLEANING.

WARNING

Compressed air used for cleaning purposes will not exceed 30 psi. Use only with effective chip guarding and personal protective equipment (goggles/shield, gloves, etc.).

CAUTION

Do not allow dry cleaning solvents, such as SD-2, to come in contact with seals or flexible hoses. These cleaners may damage leather, rubber, and synthetic materials.

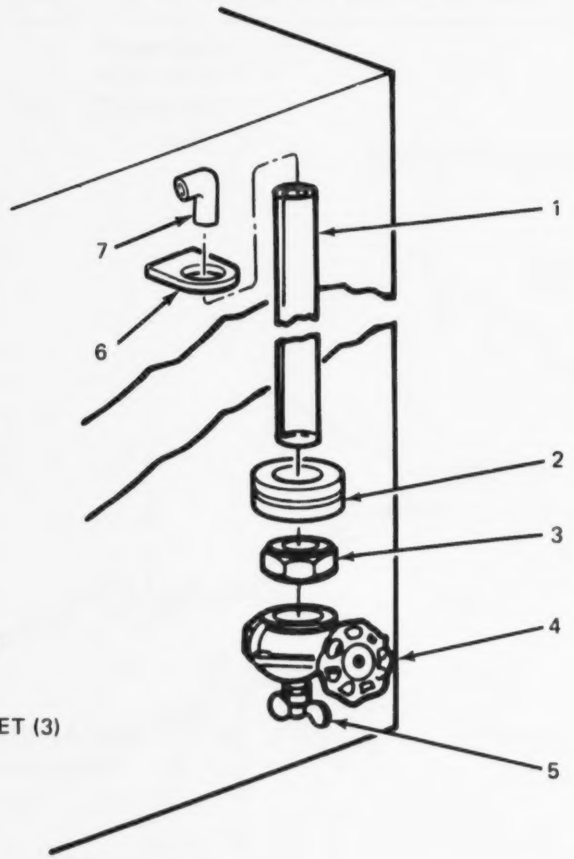
LOCATION/ITEM	ACTION	REMARKS
6. Gage tube (1).	a. Clean with soap and water. b. If dirt or scum remains, use dry cleaning solvent SD-2. Dry with compressed air.	
7. Air vent (7).	Pull from gage tube (1) and inspect for blockage and deterioration.	Replace as necessary.

C. INSTALLATION.

LOCATION/ITEM	ACTION	REMARKS
8. Air vent (7).	Install onto top of gage tube (1).	
9. Three grommets (2).	Install into three gage tube brackets (6).	
10. Gage collar nut (3) and gage tube (1).	a. Slide gage tube (1) down thru the gage tube brackets (6) and grommets (2). b. Slide gage collar nut (3) over bottom end of gage tube (1).	
	c. Insert gage tube (1) into top of gage valve (4) and secure with gage collar nut (3).	Install with red line in gage tube toward center of vehicle.
11. Draincock (5) and gage valve (4).	Close draincock (5) and open gage valve (4). Gage tube (1) should fill to level of water in tank.	Check for leaks and retighten gage collar nut (3) as necessary.

5-11. SIGHT GAGE MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS



LEGEND:

1. GAGE TUBE
2. GROMMET (3)
3. GAGE COLLAR NUT
4. GAGE VALVE
5. DRAIN COCK
6. GAGE TUBE BRACKET (3)
7. AIR VENT

TA 076216

WATER SYSTEM.

5-12. VALVES AND WATER LINES MAINTENANCE.

THIS TASK COVERS: (APPROXIMATE TIME REQUIRED FOLLOWS TASK DESCRIPTION.)

a. Removal.	(5)
b. Inspection.	(5)
c. Installation.	(5)
d. Checking for leaks.	(5)
	20 Minutes Total.

INITIAL SETUP

EQUIPMENT CONDITION PARAGRAPH	CONDITION DESCRIPTION
None.	None.

APPLICABLE CONFIGURATIONS

M919.

TEST EQUIPMENT

None.

SPECIAL TOOLS

None.

MATERIALS/PARTS (P/N)

Liquid Teflon (Refer to Appendix C).
Masking Tape.
Marking Pen.

PERSONNEL REQUIRED

One (MOS-62B20).

REFERENCES (TM)

TM 9-2320-273-10.
TM 5-3895-372-20P.

TROUBLESHOOTING REFERENCES

Table 5-1.

SPECIAL ENVIRONMENTAL CONDITIONS

Vehicle Parked on Level Ground.

GENERAL SAFETY INSTRUCTIONS

Engine Off.
Transmission in Neutral.
Parking Brake Set.

WATER SYSTEM.

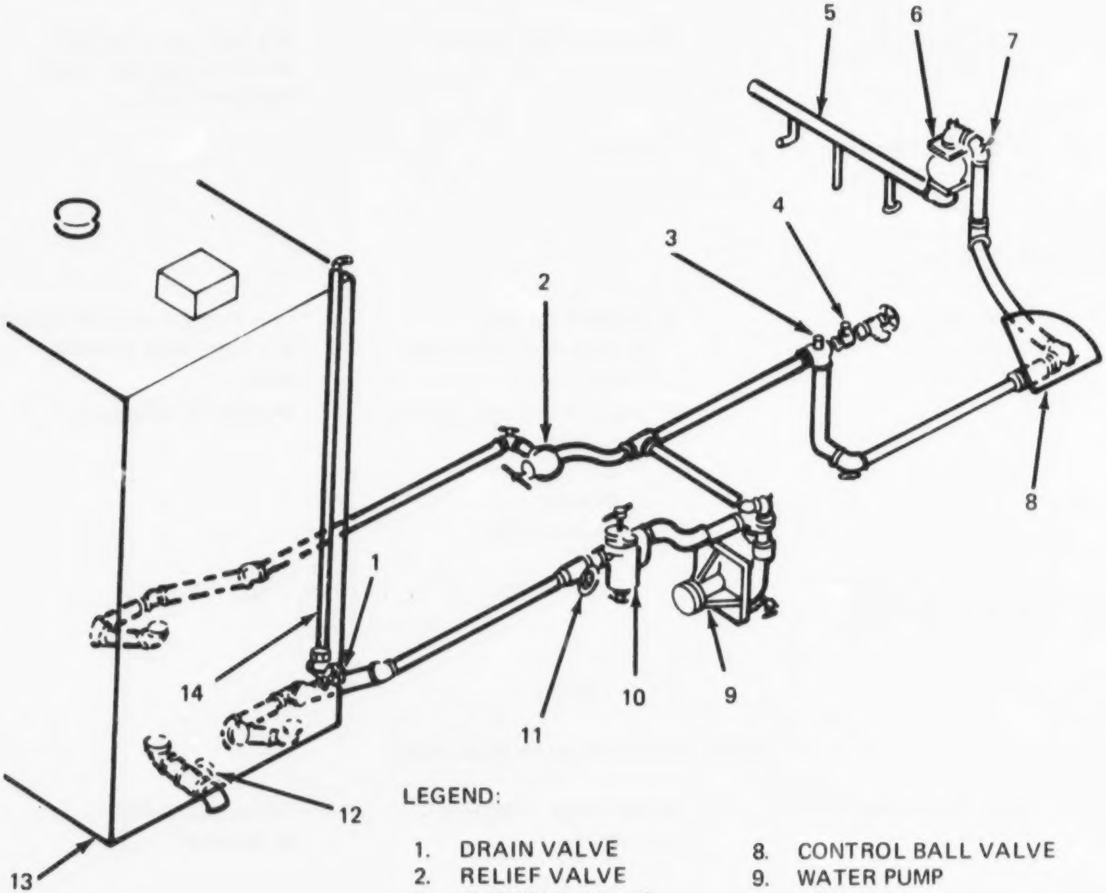
5-12. VALVES AND WATER LINES MAINTENANCE (Continued).

A. REMOVAL.

NOTE

The layout and major components of the water system are illustrated below. To replace any valve, water line, or fitting, follow these general steps using general shop practices.

LOCATION/ITEM	ACTION	REMARKS
1. Shutoff valve (11).	Close.	



LEGEND:

1. DRAIN VALVE
2. RELIEF VALVE
3. BLOWOUT VALVE
4. PIPE PLUG
5. NOZZLE ASSEMBLY
6. QUICK ACTING VALVE
7. DRAIN COCK
8. CONTROL BALL VALVE
9. WATER PUMP
10. STRAINER
11. SHUTOFF VALVE
12. DRAIN VALVE
13. WATER TANK
14. LEVEL TUBE

TA 076217

WATER SYSTEM.

5-12. VALVES AND WATER LINES MAINTENANCE (Continued).

A. REMOVAL (Continued).

NOTE

When replacing shutoff valve (11), relief valve (2) or any component between these valves and the water tank (13), the water tank must be drained. Proceed to the pipe union or hose clamp nearest the component which is to be removed and start removal of attaching lines at this point.

LOCATION/ITEM	ACTION	REMARKS
2. Attaching lines and hoses.	Unscrew and remove.	Use tape and marking pencil to identify hoses, lines and fittings.
3. Valve, fittings, or line to be replaced.	Remove.	

B. INSPECTION.

LOCATION/ITEM	ACTION	REMARKS
4. Valve, line, or fittings.	a. Inspect for dirt or sediment blocking water flow.	You may be able to remove blockage with running water.
	b. Inspect fittings, valves, and lines for: 1. Cracks. 2. Breaks. 3. Deformities.	Replace if necessary.

C. INSTALLATION.

NOTE

Apply liquid teflon to all threads.

LOCATION/ITEM	ACTION	REMARKS
5. Valve, line, hose, or fittings.	Screw onto attaching hardware.	Install as marked at removal.

WATER SYSTEM.

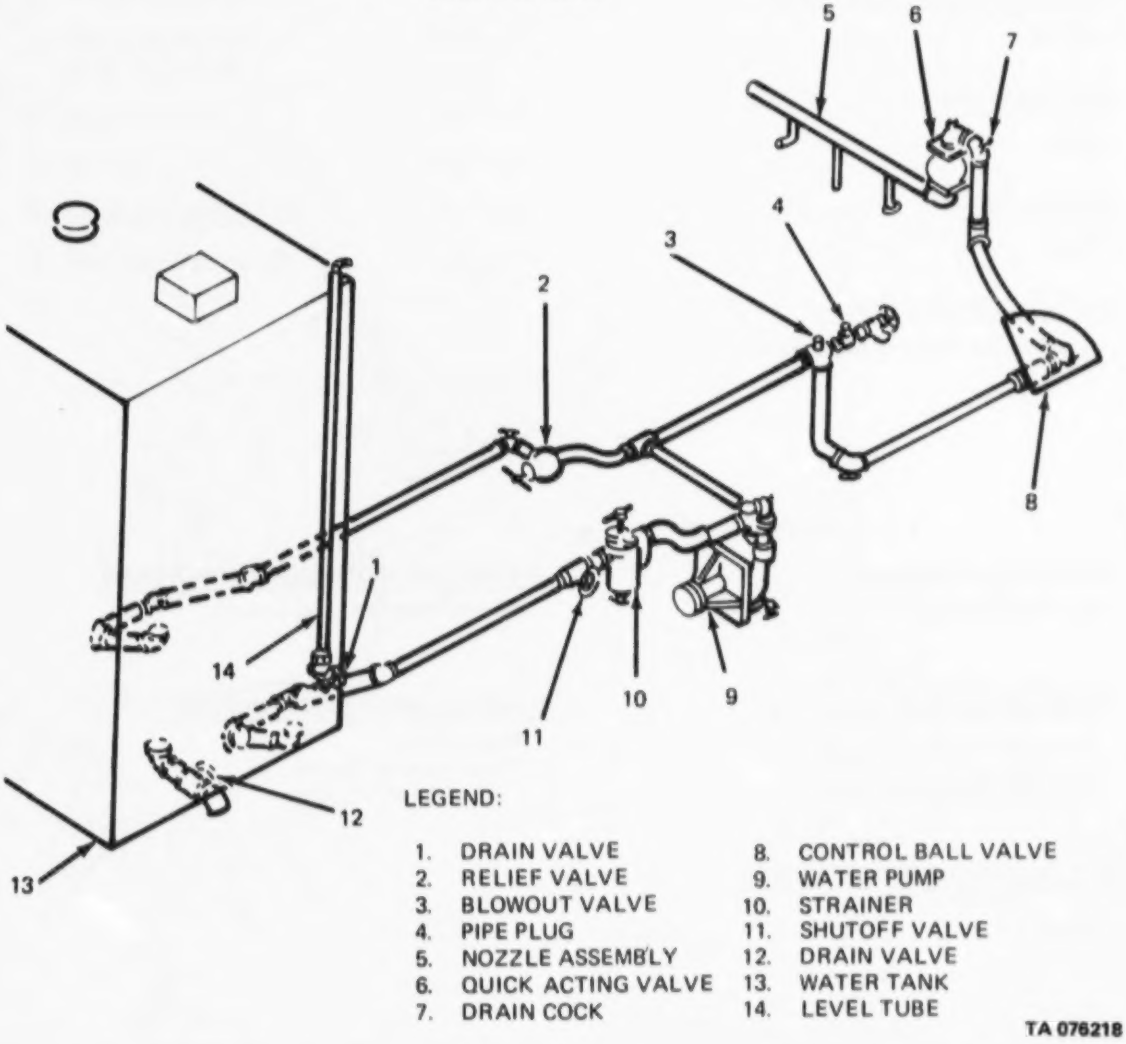
5-12. VALVES AND WATER LINES MAINTENANCE (Continued).

D. CHECKING FOR LEAKS.

NOTE

If water tank has been drained, refill at this time. Refer to TM 5-3895-372-10.

LOCATION/ITEM	ACTION	REMARKS
6. Shutoff valve (11).	Open.	
7. Water system.	Check operation. Check for leaks.	



LEGEND:

1. DRAIN VALVE
2. RELIEF VALVE
3. BLOWOUT VALVE
4. PIPE PLUG
5. NOZZLE ASSEMBLY
6. QUICK ACTING VALVE
7. DRAIN COCK
8. CONTROL BALL VALVE
9. WATER PUMP
10. STRAINER
11. SHUTOFF VALVE
12. DRAIN VALVE
13. WATER TANK
14. LEVEL TUBE

TA 076218

WATER SYSTEM.

5-13. FLOW CONTROL VALVE MAINTENANCE.

THIS TASK COVERS: (APPROXIMATE TIME REQUIRED FOLLOWS TASK DESCRIPTION.)

a. Removal.	(20)
b. Installation.	(20)
c. Operational Check.	(5)
	45 Minutes Total.

INITIAL SETUP

APPLICABLE CONFIGURATIONS

M919.

TEST EQUIPMENT

None.

SPECIAL TOOLS

None.

MATERIALS/PARTS (P/N)

Liquid Teflon (Refer to Appendix C).

EQUIPMENT CONDITION PARAGRAPH	CONDITION DESCRIPTION
5-12A.	Shut Off Valve Closed.

PERSONNEL REQUIRED

One (MOS-62B20).

REFERENCES (TM)

TM 9-2320-273-10.
TM 5-3895-372-10.
TM 5-3895-372-20P.

TROUBLESHOOTING REFERENCES

Table 5-1.

SPECIAL ENVIRONMENTAL CONDITIONS

Vehicle Parked on Level Ground.

GENERAL SAFETY INSTRUCTIONS

Engine Off.
Transmission in Neutral.
Parking Brake Set.

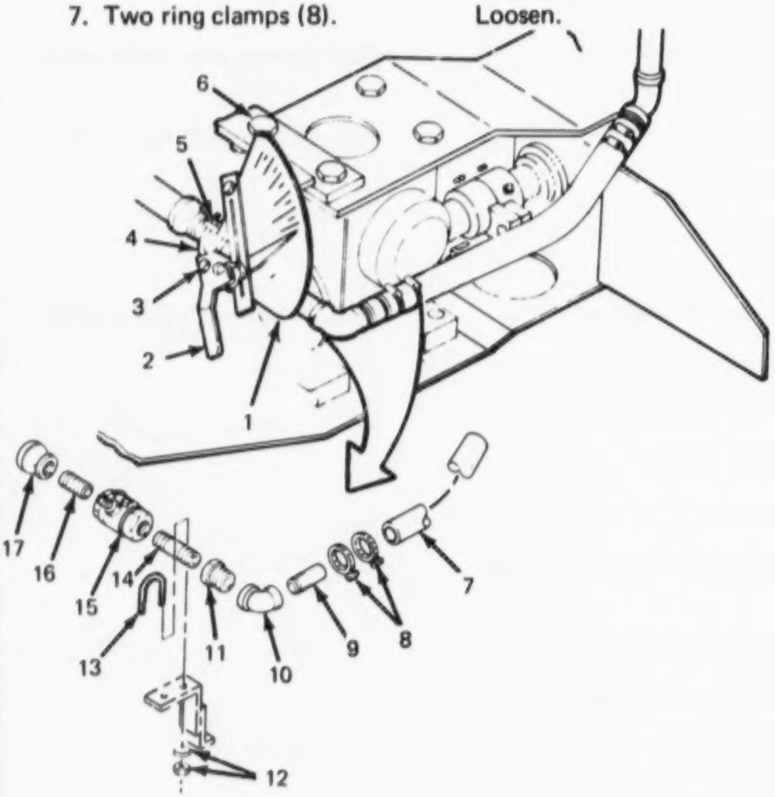
5-13. FLOW CONTROL VALVE (Continued).

A. REMOVAL.

NOTE

Before beginning service, shut-off water shutoff valve. Refer to paragraph 5-12.

LOCATION/ITEM	ACTION	REMARKS
1. Four nuts and lockwashers (5).	Remove.	
2. Two U-bolts (4).	Remove.	
3. One capscrew and three spacers (6).	Remove.	
4. Gage assembly (1).	Remove.	
5. Nut (3).	Remove.	
6. Lever and pointer (2).	Remove.	
7. Two ring clamps (8).	Loosen.	



LEGEND:

1. GAGE ASSEMBLY
2. LEVER AND POINTER
3. NUT
4. U-BOLT (2)
5. NUT AND LOCKWASHER (4)
6. CAPSCREW AND THREE SPACERS
7. HOSE
8. RING CLAMP (2)
9. NIPPLE
10. ELBOW
11. BUSHING
12. NUT AND WASHER (2)
13. U-BOLT
14. NIPPLE
15. VALVE
16. NIPPLE
17. BUSHING

TA 076219

WATER SYSTEM.

5-13. FLOW CONTROL VALVE (Continued).

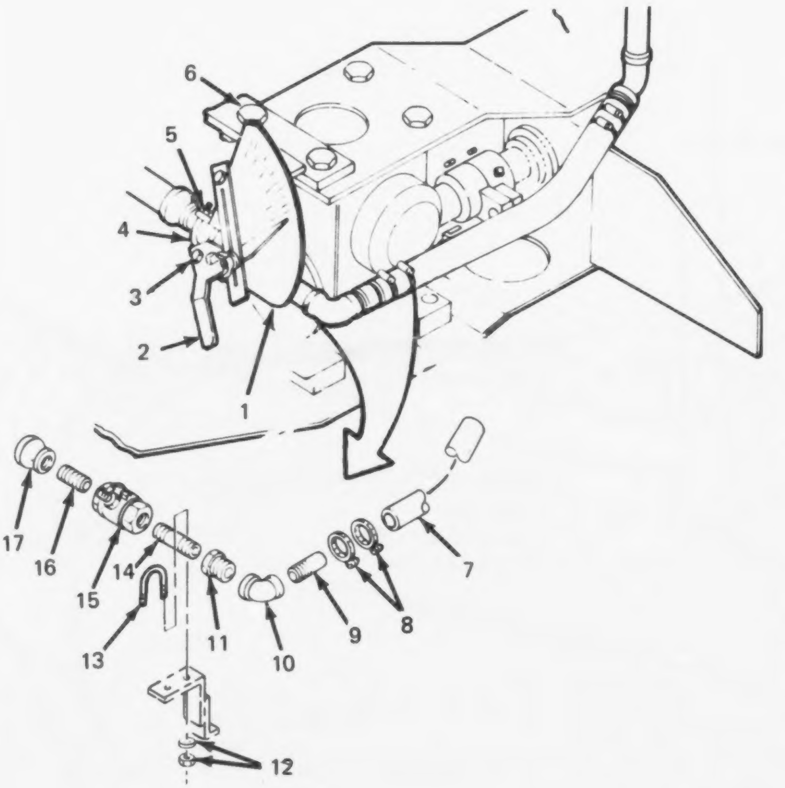
LOCATION/ITEM	ACTION	REMARKS
A. REMOVAL (Continued).		
8. Hose (7).	Remove from nipple (9) only.	Catch excess water in drain pan.
9. Nipple (9).	Remove.	
10. Two nuts and lockwashers (12).	Remove.	
11. U-bolt (13).	Remove.	
12. Elbow (10).	Remove.	
13. Bushing and nipple (11 and 14).	Remove.	
14. Valve (15).	Remove from nipple and reducer (16 and 17).	Catch excess water in drain pan.
B. INSTALLATION.		
15. Valve (15).	Install in nipple and reducer (16 and 17).	Coat threads with liquid teflon.
16. Bushing and nipple (11 and 14).	Install and tighten.	Coat threads with liquid teflon.
17. Elbow (10).	Install and tighten.	Coat threads with liquid teflon.
18. U-bolt (13).	Install.	
19. Two nuts and lockwashers (12).	Install and tighten.	
20. Nipple (9).	Install and tighten.	Coat threads with liquid teflon.
21. Hose (7).	Slip over nipple (9).	
22. Two ring clamps (8).	Tighten securely.	
23. Gage assembly (1).	Set in place.	
24. Two U-bolts (4).	Install.	
25. Four nuts and lockwashers (5).	Install and tighten securely.	
26. Lever and pointer (2).	Set in place.	
27. One capscrew and three spacers (6).	Install and tighten.	
28. Nut (3).	Install and tighten.	

WATER SYSTEM.

5-13. FLOW CONTROL VALVE (Continued).

C. OPERATIONAL CHECK.

LOCATION/ITEM	ACTION	REMARKS
29. Water shut-off valve.	Open.	
30. Mixer body.	Start up (see TM 9-2320-273-10 and TM 5-3895-372-10).	
31. Valve (15).	Open.	
32. Main clutch.	Activate.	
33. Valve (15).	a. Check for leaks. b. Water flow from nozzles.	
34. Mixer body.	Shut-down (see TM 9-2320-273-10 and TM 5-3895-372-10).	



LEGEND:

1. GAGE ASSEMBLY
2. LEVER AND POINTER
3. NUT
4. U-BOLT (2)
5. NUT AND LOCKWASHER (4)
6. CAPSCREW AND THREE SPACERS
7. HOSE
8. RING CLAMP (2)
9. NIPPLE
10. ELBOW
11. BUSHING
12. NUT AND WASHER (2)
13. U-BOLT
14. NIPPLE
15. VALVE
16. NIPPLE
17. BUSHING

TA 076220

WATER SYSTEM.

5-14. WATER TANK MAINTENANCE.

THIS TASK COVERS: (APPROXIMATE TIME REQUIRED FOLLOWS TASK DESCRIPTION.)

a. Removal.	(60)
b. Repair.	(60)
c. Installation.	(60)
d. Operational Check.	(10)
	190 Minutes Total.

INITIAL SETUP

EQUIPMENT CONDITION PARAGRAPH	CONDITION DESCRIPTION
TM 5-3895-372-10.	Water Tank Empty.

APPLICABLE CONFIGURATIONS

M919.

TEST EQUIPMENT

None.

SPECIAL TOOLS

Eye Bolts (4).
Four Point Sling.
Overhead Winch.

MATERIALS/PARTS (P/N)

Liquid Teflon (See Appendix C).
Tank to Frame Gasket, NP5033029 (50663).

PERSONNEL REQUIRED

Two (MOS-62B20).

REFERENCES (TM)

TM 9-2320-273-10.
TM 5-3895-372-10.
TM 5-3895-372-20P.

TROUBLESHOOTING REFERENCES

Table 5-1.

SPECIAL ENVIRONMENTAL CONDITIONS

Vehicle Parked on Level Ground.

GENERAL SAFETY INSTRUCTIONS

Engine Off.
Transmission in Neutral.
Parking Brake Set.

WATER SYSTEM.

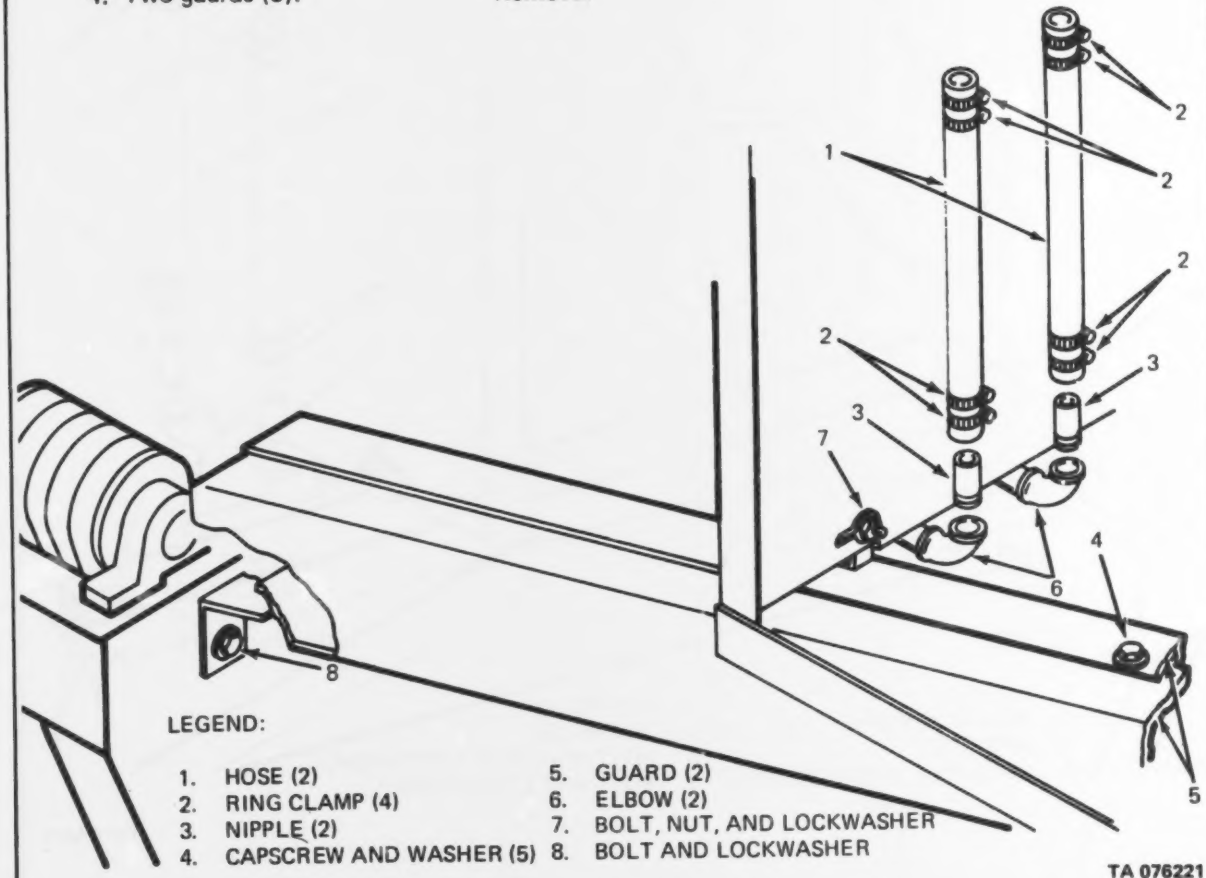
5-14. WATER TANK MAINTENANCE (Continued).

NOTE

Before beginning service, drain water tank.

A. REMOVAL.

LOCATION/ITEM	ACTION	REMARKS
1. Five capscrews and washers (4).	Remove.	
2. One bolt and lockwasher (8).	Remove.	
3. One bolt, nut, and lockwasher (7).	Remove.	
4. Two guards (5).	Remove.	



LEGEND:

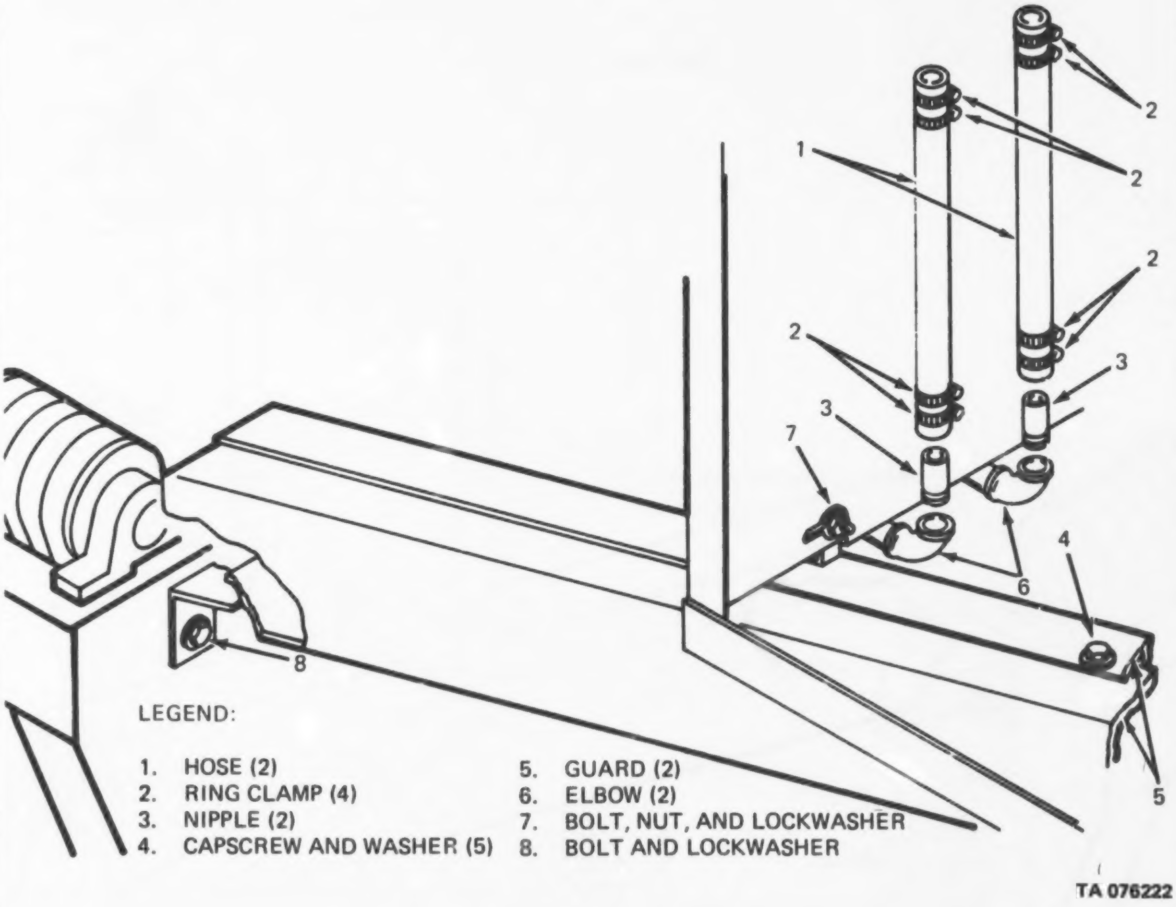
1. HOSE (2)
2. RING CLAMP (4)
3. NIPPLE (2)
4. CAPSCREW AND WASHER (5)
5. GUARD (2)
6. ELBOW (2)
7. BOLT, NUT, AND LOCKWASHER
8. BOLT AND LOCKWASHER

TA 076221

5-14. WATER TANK MAINTENANCE (Continued).

A. REMOVAL (Continued).

LOCATION/ITEM	ACTION	REMARKS
5. Four ring clamps (2).	Loosen.	
6. Two hoses (1).	Remove from two nipples (3).	Replace if necessary.
7. Two nipples (3).	Remove.	
8. Two elbows (6).	Remove.	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2
1
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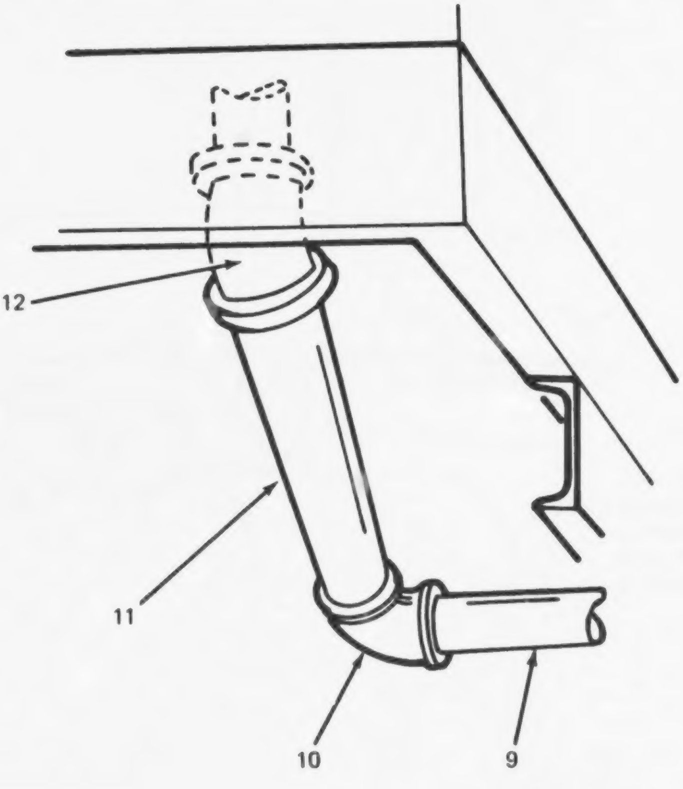
LEGEND:
1. HOSE (2)
2. RING CLAMP (4)
3. NIPPLE (2)
4. CAPSCREW AND WASHER (5)
5. GUARD (2)
6. ELBOW (2)
7. BOLT, NUT, AND LOCKWASHER
8. BOLT AND LOCKWASHER
TA 076222

WATER SYSTEM.

5-14. WATER TANK MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS
A. REMOVAL (Continued).		
9. Two elbows (10) and pipes (9) and (11).	Remove.	
10. Two elbows (12).	Remove.	



LEGEND:

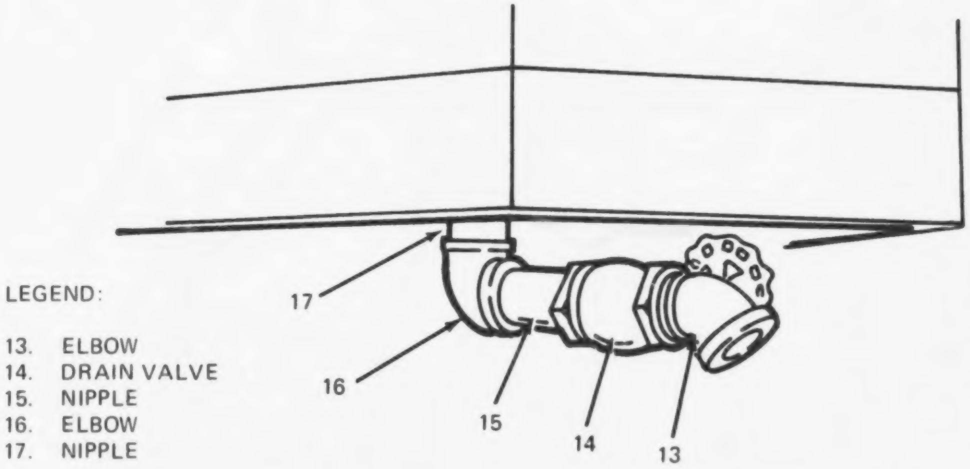
9. PIPE (2)
10. ELBOW (2)
11. PIPE (2)
12. ELBOW (2)

TA 076223

WATER SYSTEM.

5-14. WATER TANK MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS
A. REMOVAL (Continued).		
11. Elbow (13).	Remove.	
12. Drain valve (14), nipple (15) and elbow (16).	Remove intact.	
13. Nipple (17).	Remove.	

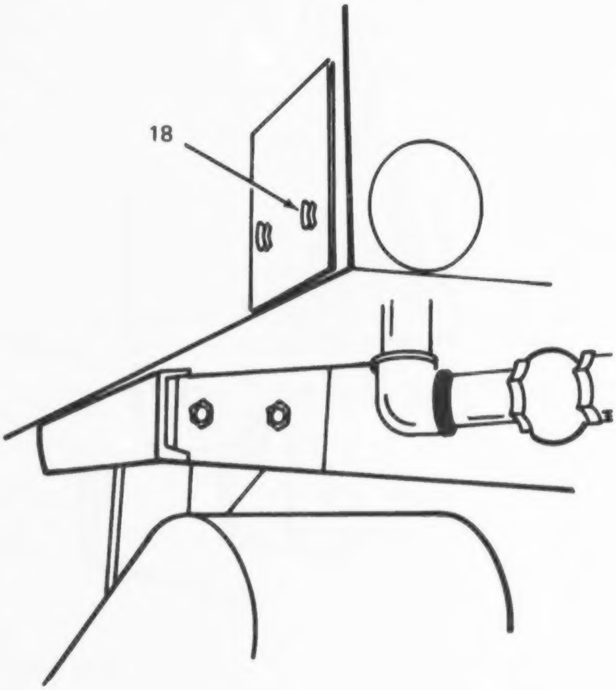

LEGEND:
13. ELBOW
14. DRAIN VALVE
15. NIPPLE
16. ELBOW
17. NIPPLE
17
16
15
14
13

TA 076224

WATER SYSTEM.

5-14. WATER TANK MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS
A. REMOVAL (Continued).		
14. Ten leg bolts, nuts, and lockwashers (18).	Remove.	



LEGEND:

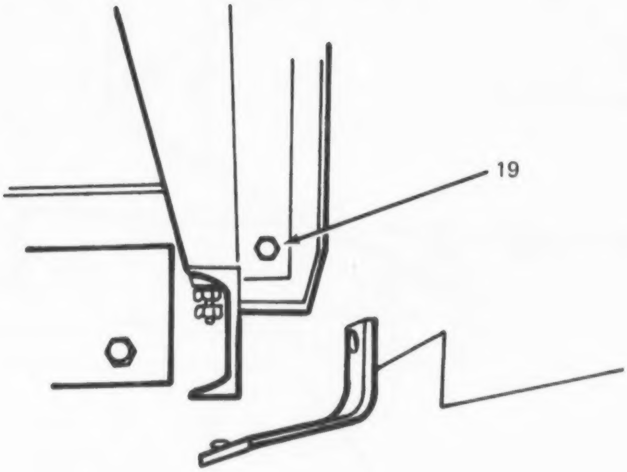
18. LEG BOLT, NUT, AND LOCKWASHER (10)

TA 076225

WATER SYSTEM.

5-14. WATER TANK MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS
A. REMOVAL (Continued).		
15. Two bolts, lockwashers, and nuts (19).	Remove.	Located between water tank and sand and stone bin.



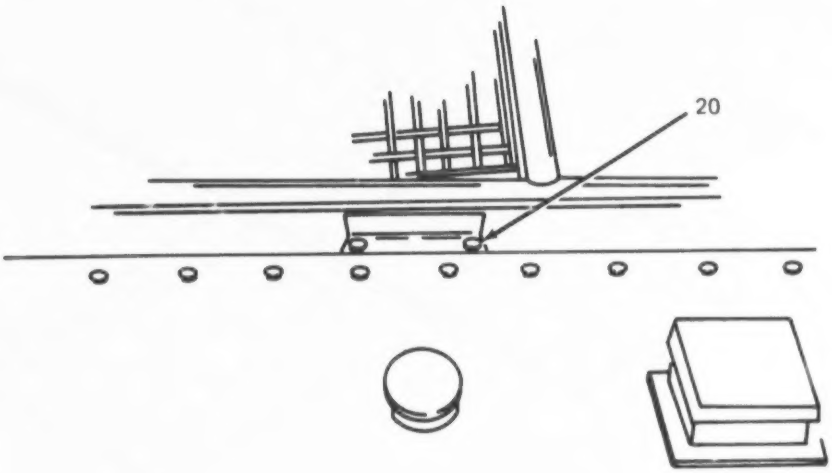
LEGEND:

19. BOLT, LOCKWASHER, AND NUT (2)

TA 076226

5-14. WATER TANK MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS
A. REMOVAL (Continued).		
16. Two bolts, flatwashers, lockwashers, and nuts (20).	Remove.	Top back-side of water tank.



LEGEND:

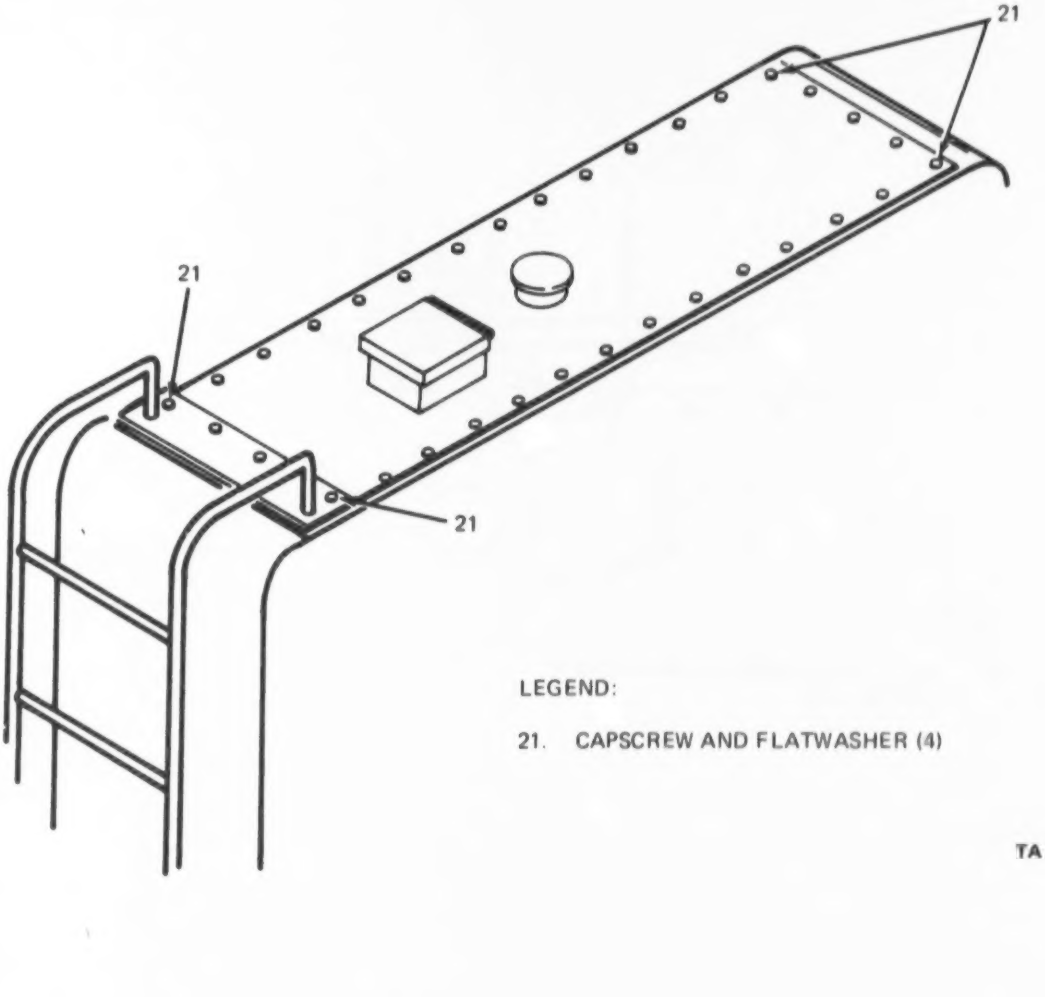
20. BOLT, FLATWASHER, LOCKWASHER, AND NUT (2)

TA 076227

WATER SYSTEM.

5-14. WATER TANK MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS
A. REMOVAL (Continued).		
17. Four capscrews and flatwashers (21).	Remove.	One in each corner.



LEGEND:

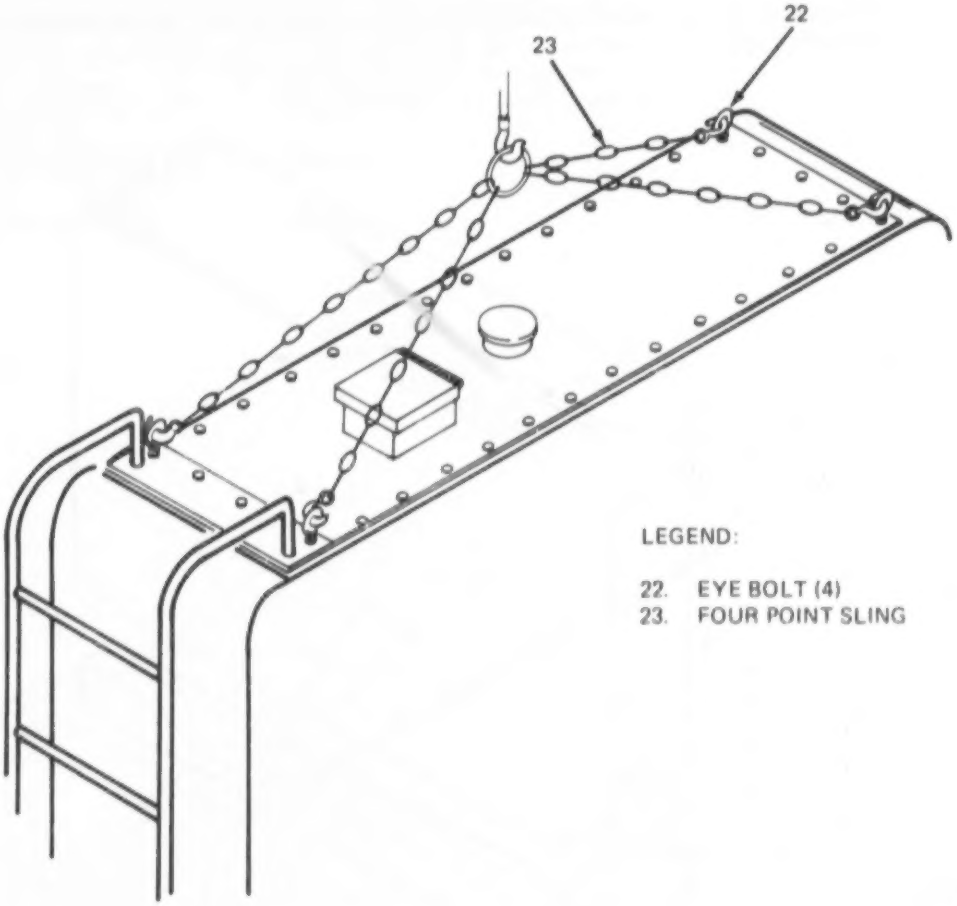
21. CAPSCREW AND FLATWASHER (4)

TA 076228

WATER SYSTEM.

5-14. WATER TANK MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS
A. REMOVAL (Continued).		
18. Four eye bolts (22).	Install.	One in each corner.
19. Four point sling (23).	Install.	
20. Overhead winch.	Raise water tank approximately 10 in. and remove through left side of vehicle.	



LEGEND:

22. EYE BOLT (4)
23. FOUR POINT SLING

TA 076229

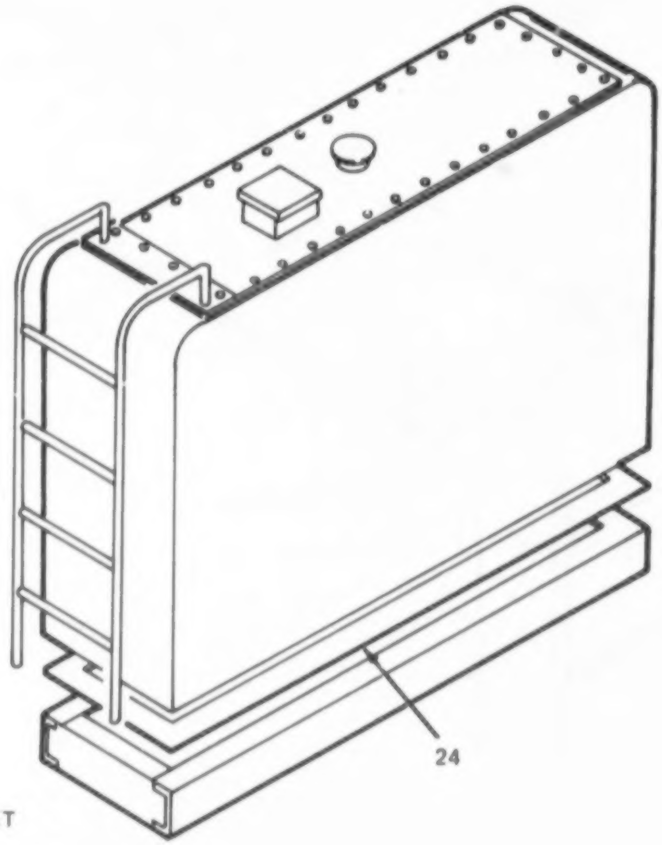
WATER SYSTEM.

5-14. WATER TANK MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS
B. REPAIR.		
21. Mounting gasket (24).	Inspect and replace if necessary.	
22. Cracks.	Weld cracks inside and outside of tank using standard shop practices and techniques for galvanized steel.	After welding, recoat the inside of the tank with bitumask paint.

NOTE

If necessary, abnormally large holes or cracks may be patched and welded with galvanized steel.



LEGEND:

24. MOUNTING GASKET

TA 078230

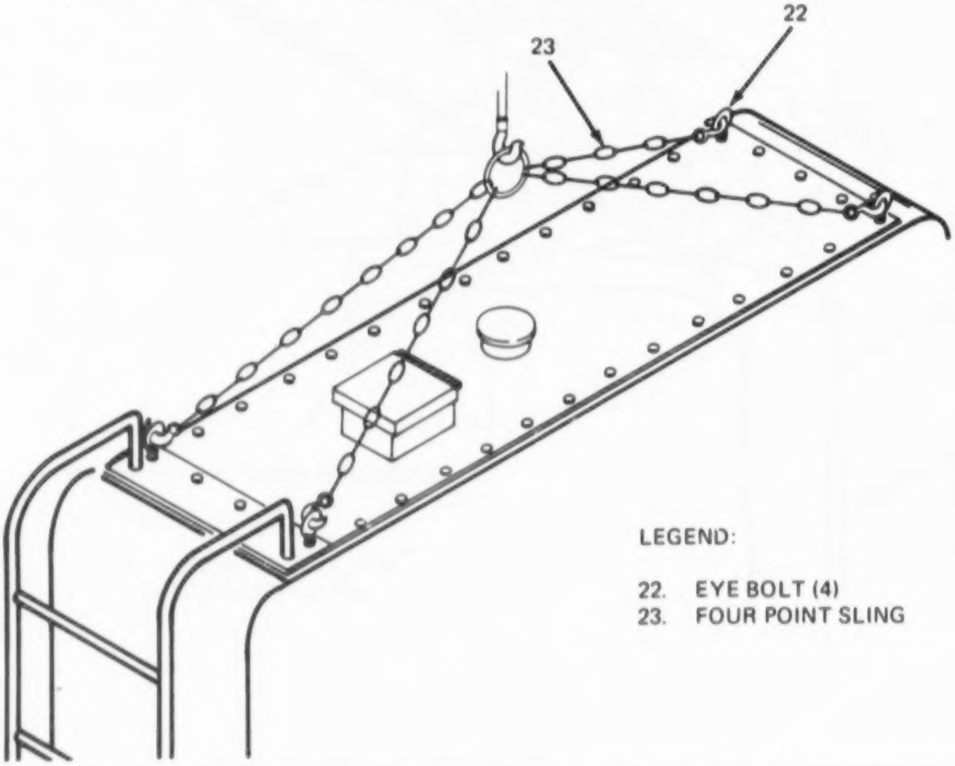
5-14. WATER TANK MAINTENANCE (Continued).

C. INSTALLATION.

NOTE

If installing a new water tank, transfer usable components from damaged tank to replacement tank.

LOCATION/ITEM	ACTION	REMARKS
23. Four eye bolts (22).	Install and tighten securely.	One in each corner, top of tank.
24. Four point sling (23).	Install.	
25. Overhead winch.	Raise water tank approximately 10 in. over water tank mounting frame and install through left side of vehicle and set in position.	
26. Four point sling (23).	Remove.	
27. Four eye bolts (22).	Remove.	

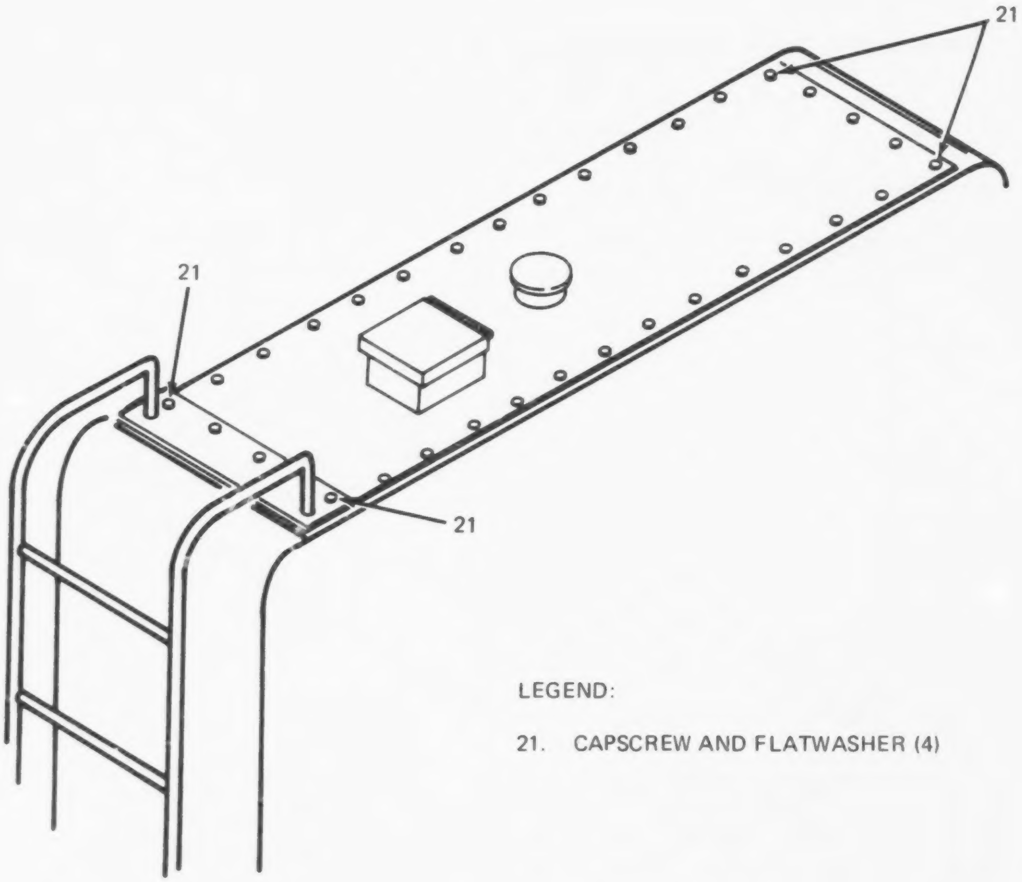


TA 076231

WATER SYSTEM.

5-14. WATER TANK MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS
C. INSTALLATION (Continued).		
28. Four capscrews and flatwashers (21).	Install and tighten.	One in each corner.



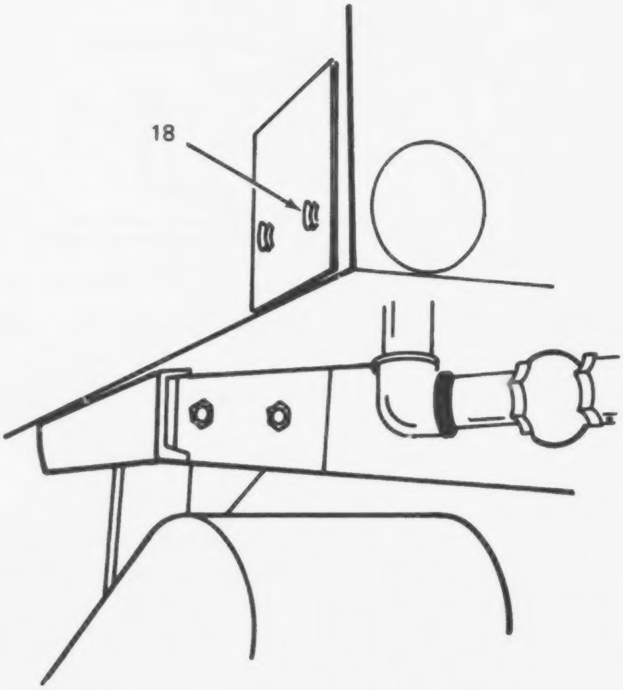
LEGEND:

21. CAPSCREW AND FLATWASHER (4)

TA 076232

5-14. WATER TANK MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS
C. INSTALLATION (Continued).		
29. Ten leg bolts, nuts and lockwashers (18).	Install and tighten securely.	



LEGEND:

18. LEG BOLT, NUT, AND LOCKWASHER (10)

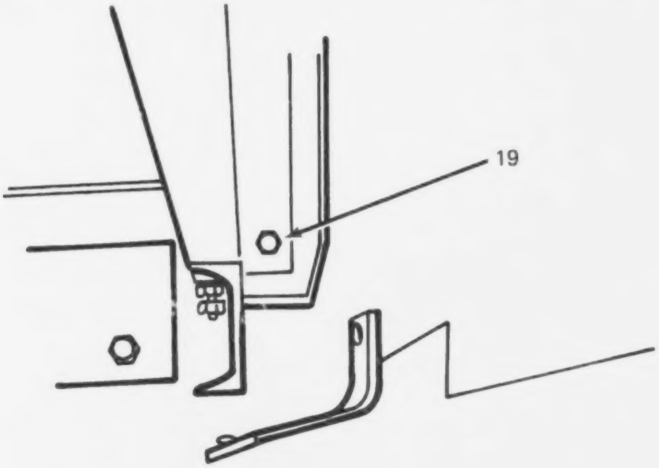
TA 076233

WATER SYSTEM.

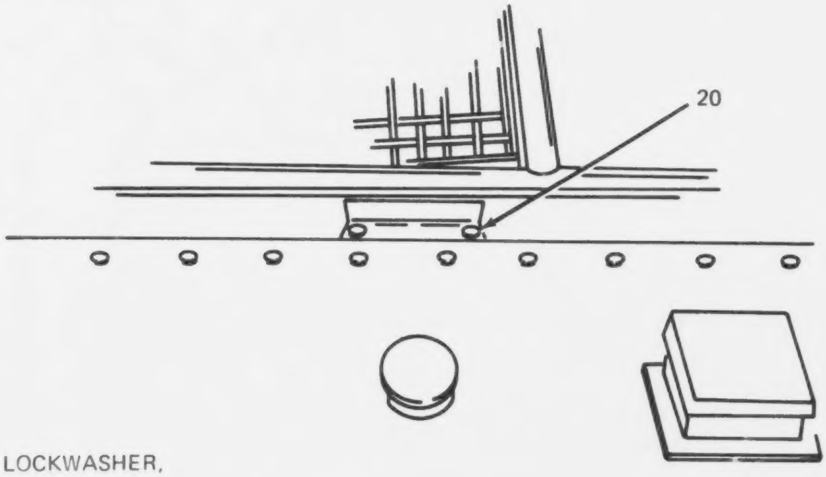
5-14. WATER TANK MAINTENANCE (Continued).

C. INSTALLATION (Continued).

LOCATION/ITEM	ACTION	REMARKS
30. Two bolts, lockwashers, and nuts (19).	Install and tighten securely.	Located between water tank and sand and stone bin.



LOCATION/ITEM	ACTION	REMARKS
31. Two bolts, flatwashers, lockwashers and nuts (20).	Install and tighten securely.	Top backside of water tank.



LEGEND:

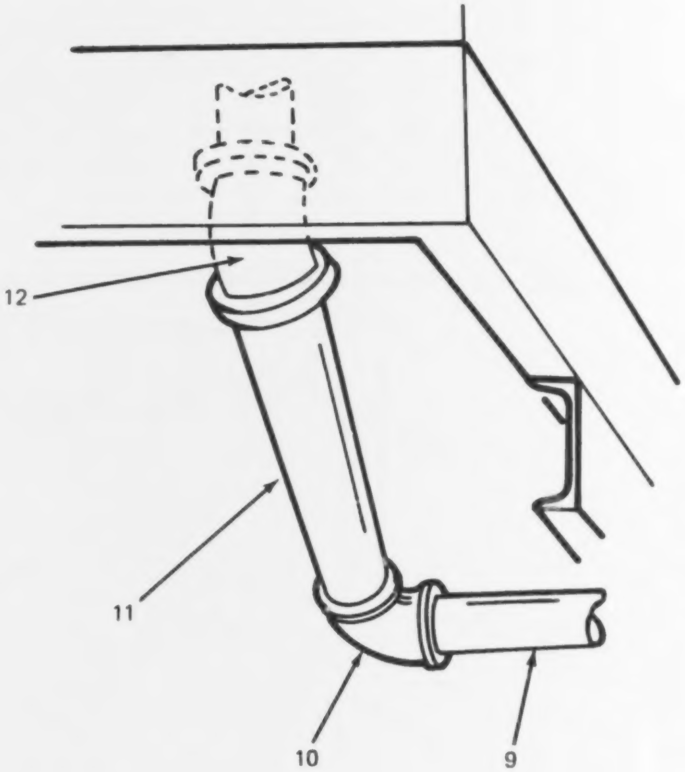
19. BOLT, LOCKWASHER, AND NUT (2)
20. BOLT, FLATWASHER, LOCKWASHER, AND NUT (2)

TA 076234

WATER SYSTEM.

5-14. WATER TANK MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS
C. INSTALLATION (Continued).		
32. Two elbows (12).	Install.	Coat threads with liquid teflon.
33. Two elbows (10) and pipes (11) and (12).	Install.	Coat threads with liquid teflon.



LEGEND:

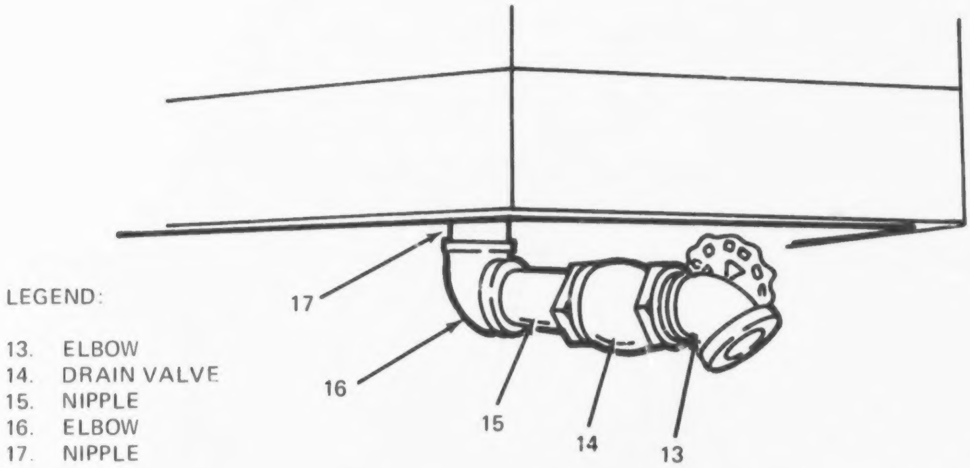
9. PIPE (2)
10. ELBOW
11. PIPE (2)
12. ELBOW (2)

TA 076235

5-14. WATER TANK MAINTENANCE (Continued).

C. INSTALLATION (Continued).

LOCATION/ITEM	ACTION	REMARKS
34. Nipple (17).	Install.	Coat threads with liquid teflon.
35. Drain valve (14), nipple (15), and elbow (16).	Install on nipple (17).	Coat threads with liquid teflon.
36. Elbow (13).	Install.	Coat threads with liquid teflon.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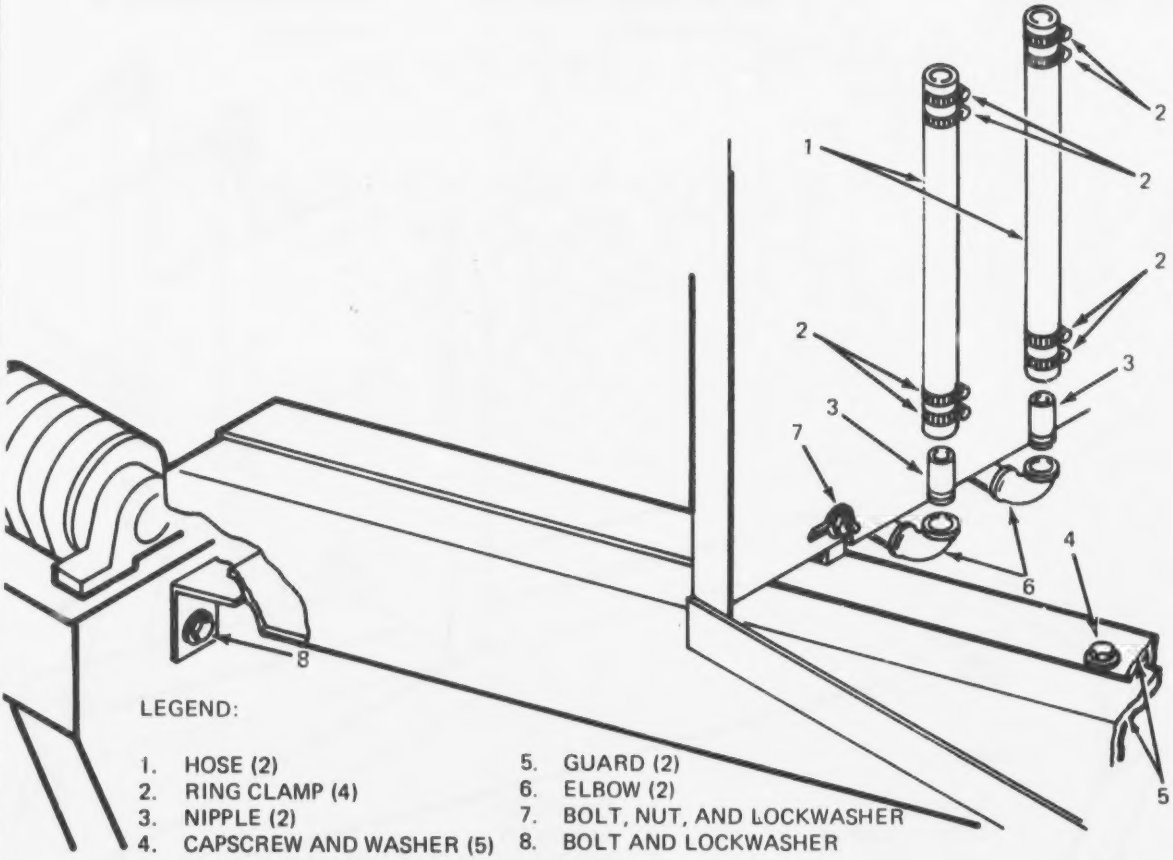
16
15
14
13
LEGEND:
13. ELBOW
14. DRAIN VALVE
15. NIPPLE
16. ELBOW
17. NIPPLE

TA 076236

5-14. WATER TANK MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS
C. INSTALLATION (Continued).		
37. Two elbows (6).	Install.	Coat threads with liquid teflon.
38. Two nipples (3).	Install.	Coat threads with liquid teflon.
39. Two hoses (1).	Install.	
40. Four ring clamps (2).	Tighten securely.	
41. Guards (5).	Set in place.	
42. One bolt, nut and lockwasher (7).	Install.	



LEGEND:

1. HOSE (2)
2. RING CLAMP (4)
3. NIPPLE (2)
4. CAPSCREW AND WASHER (5)
5. GUARD (2)
6. ELBOW (2)
7. BOLT, NUT, AND LOCKWASHER
8. BOLT AND LOCKWASHER

TA 076237

WATER SYSTEM.

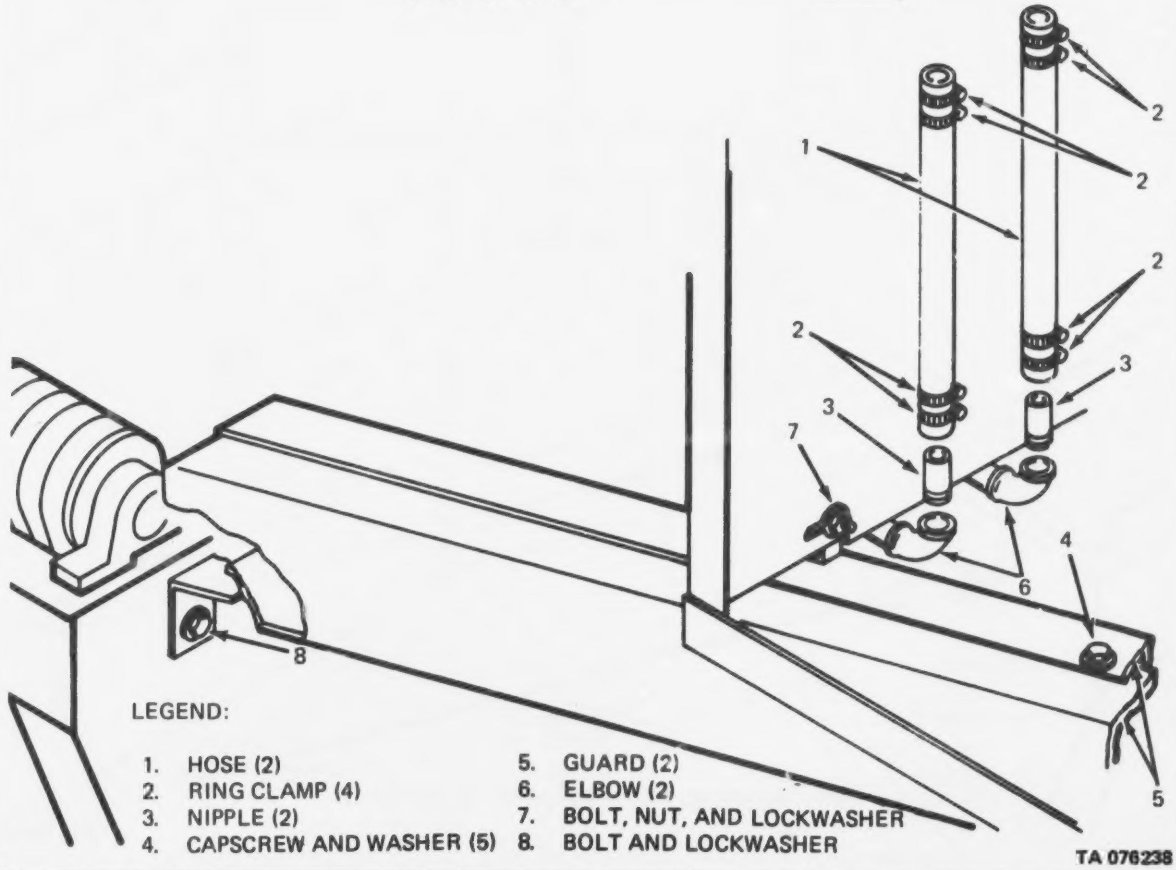
5-14. WATER TANK MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS
C. INSTALLATION (Continued).		
43. One bolt and lockwasher (8).	Install.	
44. Five capscrews and washers (4).	Install.	

NOTE

Tighten all bolts and nuts securely after alinement.

LOCATION/ITEM	ACTION	REMARKS
D. OPERATIONAL CHECK.		
45. Water tank.	Fill with potable water and check for leaks.	Retighten connections as necessary.



LEGEND:

1. HOSE (2)
2. RING CLAMP (4)
3. NIPPLE (2)
4. CAPSCREW AND WASHER (5)
5. GUARD (2)
6. ELBOW (2)
7. BOLT, NUT, AND LOCKWASHER
8. BOLT AND LOCKWASHER

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WATER SYSTEM.

5-15. WATER TANK COMPONENTS MAINTENANCE.

THIS TASK COVERS: (APPROXIMATE TIME REQUIRED FOLLOWS TASK DESCRIPTION.)

a. Removal.	(30)
b. Installation.	(30)
	60 Minutes Total.

INITIAL SETUP

APPLICABLE CONFIGURATIONS

M919.

TEST EQUIPMENT

None.

SPECIAL TOOLS

1500 Lb Hoist.

MATERIALS/PARTS (P/N)

Strainer Assembly Gasket, NP3703004 (50663).

EQUIPMENT CONDITION PARAGRAPH	CONDITION DESCRIPTION
None.	None.

PERSONNEL REQUIRED

Two (MOS-62B20).

REFERENCES (TM)

TM 5-3895-372-10.
TM 5-3895-372-20P.
TM 9-2320-273-10.

TROUBLESHOOTING REFERENCES

None.

SPECIAL ENVIRONMENTAL CONDITIONS

Vehicle Parked on Level Ground.

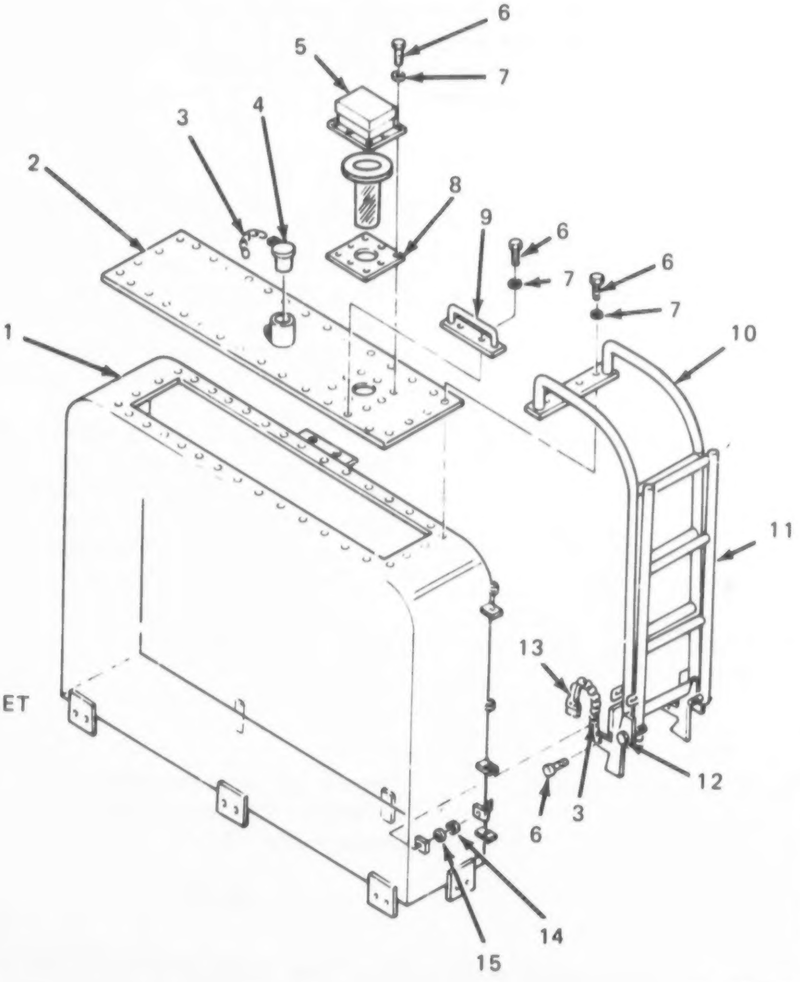
GENERAL SAFETY INSTRUCTIONS

Engine Off.
Transmission in Neutral.
Parking Brake Set.

WATER SYSTEM.

5-15. WATER TANK COMPONENTS MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS
A. REMOVAL.		
1. Ten screws (6) and washers (7).	Unscrew and remove strainer assembly (5), strainer assembly gasket (8), and handle (9).	Discard gasket.



LEGEND:

1. WATER TANK
2. WATER TANK COVER
3. CHAIN (2)
4. WATER TANK CAP
5. STRAINER ASSEMBLY
6. SCREW (44)
7. WASHER (42)
8. STRAINER ASSEMBLY GASKET
9. HANDLE
10. UPPER LADDER SECTION
11. LOWER LADDER SECTION
12. HINGE BOLT (2)
13. SNAP HOOK
14. NUT (2)
15. WASHER (2)

TA 076239

5-15. WATER TANK COMPONENTS MAINTENANCE (Continued).

A. REMOVAL (Continued).

LOCATION/ITEM	ACTION	REMARKS
2. One chain (3) and water tank cap (4).	a. Inspect for damage. b. If damaged, refer to Direct Support Maintenance as welding will be required.	

WARNING

If the water tank cover and/or ladder is to be removed, do not stand on the water tank ladder. Use a suitable platform or step ladder. Use a suitable overhead hoist with a rope or chain attached thru the strainer assembly hole and around the end of the water tank cover.

LOCATION/ITEM	ACTION	REMARKS
3. Thirty-four screws (6), thirty-two washers (7), two washers (15) and nuts (14).	a. Unscrew from water tank cover (2), upper ladder section (10), and lower ladder section (11). b. Remove upper ladder section (10) and lower ladder section (11) with one chain (3) and snap hook (13) attached.	
4. Water tank cover (2).	Attach a suitable chain or rope from an overhead hoist thru the strainer assembly hole and around the end of the water tank cover. Raise up and away from vehicle, then lower to ground.	Second mechanic guides to ground and detaches chain or rope.
5. One chain (3) and snap hook (13).	Inspect for damage.	Replace as necessary.
6. Two hinge bolts (12).	Remove and separate upper ladder section (10) from lower ladder section (11).	Welded in place.

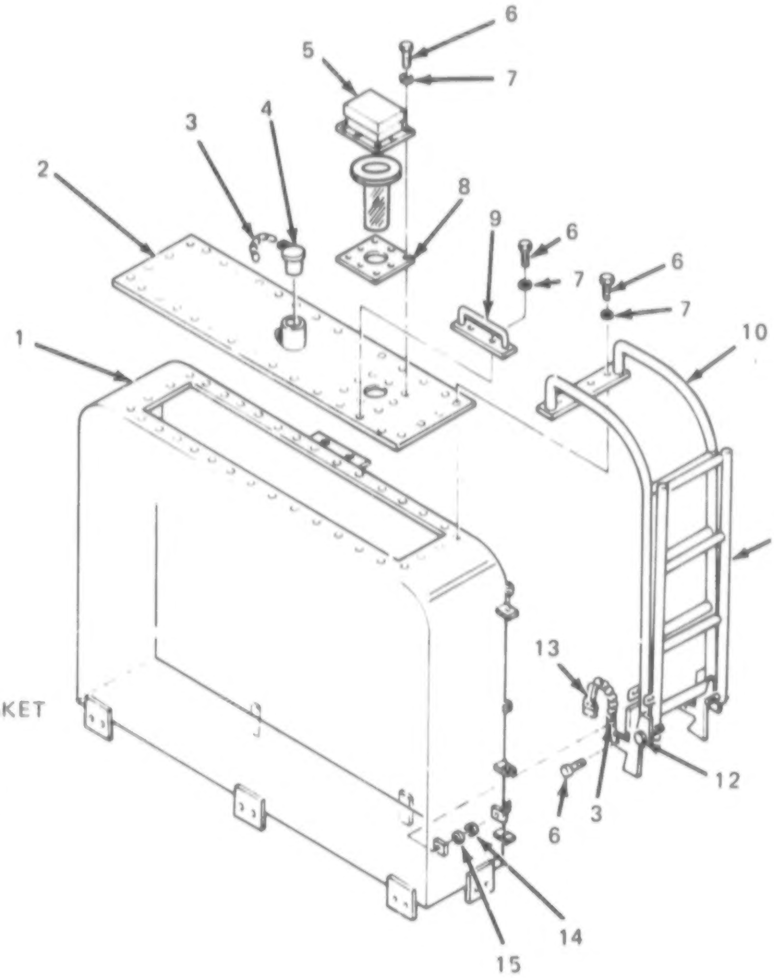
NOTE

Inspect upper ladder section, lower ladder section, handle, and water tank cover for cracks or breaks. Repair as necessary by welding, or replace.

WATER SYSTEM.

5-15. WATER TANK COMPONENTS MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS



LEGEND:

1. WATER TANK
2. WATER TANK COVER
3. CHAIN (2)
4. WATER TANK CAP
5. STRAINER ASSEMBLY
6. SCREW (44)
7. WASHER (42)
8. STRAINER ASSEMBLY GASKET
9. HANDLE
10. UPPER LADDER SECTION
11. LOWER LADDER SECTION
12. HINGE BOLT (2)
13. SNAP HOOK
14. NUT (2)
15. WASHER (2)

TA 076240

5-15. WATER TANK COMPONENTS MAINTENANCE (Continued).

B. INSTALLATION.

LOCATION/ITEM	ACTION	REMARKS
7. Upper ladder section (10) and lower ladder section (11).	Mount together by welding with two hinge bolts (12), if removed.	One chain (3) and snap hook (13) is weld mounted to upper ladder section (10).
8. Water tank cover (2).	a. Attach a suitable rope or chain from an overhead hoist and install as done for removal.	
	b. Raise into position on top of water tank (1). c. Detach hoist hook-up.	One mechanic on suitable platform or ladder and second mechanic on ground to guide into position.
9. Upper ladder section (10), lower ladder section (11), and water tank cover (2).	a. Aline mounting holes with those in water tank (1).	
	b. Mount to water tank (1) with thirty-four screws (6), thirty-two washers (7), two washers (15) and nuts (14).	Tighten securely.
10. New strainer assembly gasket (8), strainer assembly (5), and handle (9).	a. Position on water tank cover (2). b. Secure with ten screws (6) and washers (7).	

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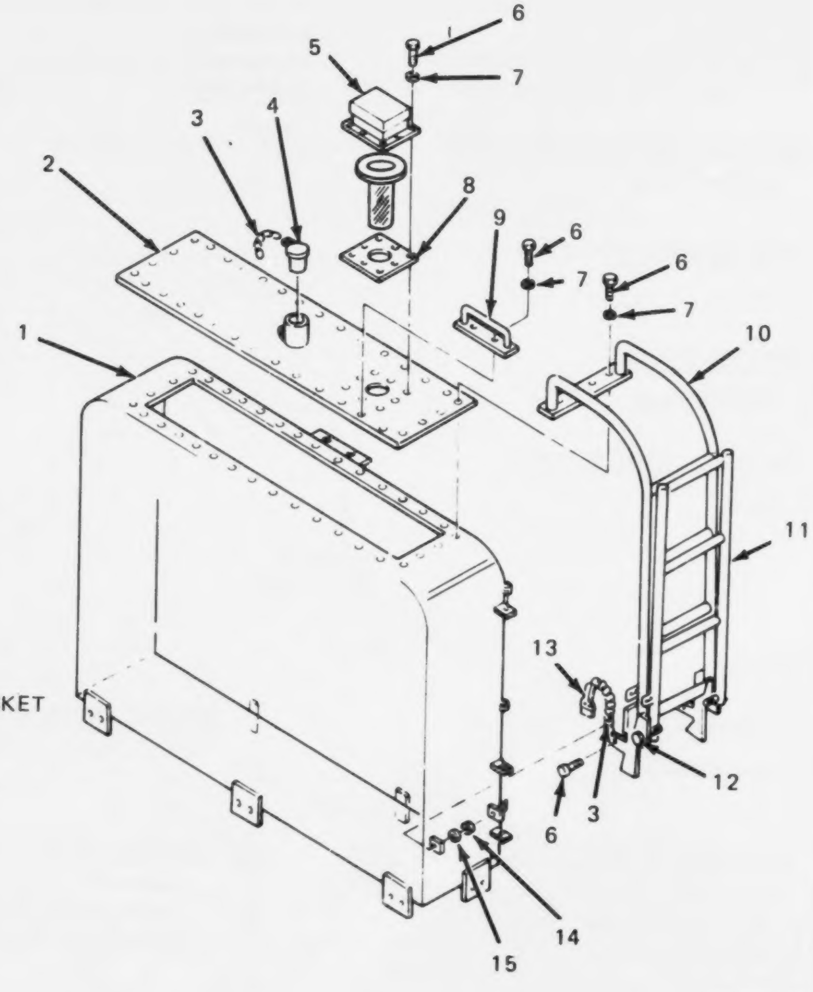
5-15. WATER TANK COMPONENTS MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS



LEGEND:

1. WATER TANK
2. WATER TANK COVER
3. CHAIN (2)
4. WATER TANK CAP
5. STRAINER ASSEMBLY
6. SCREW (44)
7. WASHER (42)
8. STRAINER ASSEMBLY GASKET
9. HANDLE
10. UPPER LADDER SECTION
11. LOWER LADDER SECTION
12. HINGE BOLT (2)
13. SNAP HOOK
14. NUT (2)
15. WASHER (2)

TA 076241

WATER SYSTEM.

5-16. WATER TANK SUB-FRAMES MAINTENANCE.

THIS TASK COVERS: (APPROXIMATE TIME REQUIRED FOLLOWS TASK DESCRIPTION.)

a. Removal.	(30)
b. Installation.	(30)
	60 Minutes Total.

INITIAL SETUP

EQUIPMENT CONDITION PARAGRAPH	CONDITION DESCRIPTION
5-14A.	Water Tank Removed.

APPLICABLE CONFIGURATIONS

M919.

TEST EQUIPMENT

None.

SPECIAL TOOLS

1500 Lb Hoist.

MATERIALS/PARTS (P/N)

None.

PERSONNEL REQUIRED

One (MOS-62B20).

REFERENCES (TM)

TM 5-3895-372-10.
TM 5-3895-372-20P.
TM 9-2320-273-10.

TROUBLESHOOTING REFERENCES

None.

SPECIAL ENVIRONMENTAL CONDITIONS

Vehicle Parked on Level Ground.

GENERAL SAFETY INSTRUCTIONS

Engine Off.
Transmission in Neutral.
Parking Brake Set.

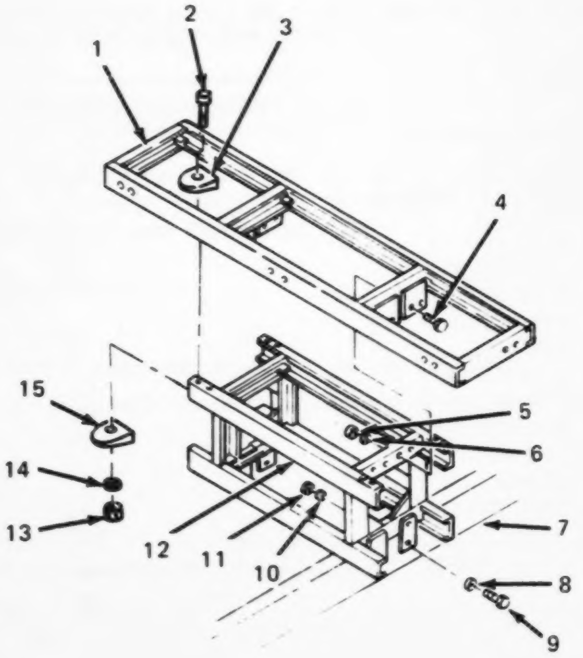
WATER SYSTEM.

5-16. WATER TANK SUB-FRAMES MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS
A. REMOVAL.		
1. Eight bolts (2), tapered shims (3), tapered shims (15), washers (14), and nuts (13).	Unscrew and remove.	
2. Eight bolts (4), washers (6), and nuts (5).	Unscrew and remove.	Lift top sub-frame (1) from vehicle with suitable hoist.
3. Eight bolts (9), washers (8), washers (10), and nuts (11).	Unscrew and remove.	Lift bottom sub-frame (12) from chassis frame (7) with suitable hoist.
4. Top sub-frame (1) and bottom sub-frame (12).	a. Inspect for broken welds. b. Repair by welding as necessary.	

LEGEND:

1. TOP SUB-FRAME
2. BOLT (8)
3. TAPERED SHIM (8)
4. BOLT (8)
5. NUT (8)
6. WASHER (8)
7. CHASSIS FRAME
8. WASHER (8)
9. BOLT (8)
10. WASHER (8)
11. NUT (8)
12. BOTTOM SUB-FRAME
13. NUT (8)
14. WASHER (8)
15. TAPERED SHIM (8)



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5-16. WATER TANK SUB-FRAMES MAINTENANCE (Continued).

B. INSTALLATION.

LOCATION/ITEM	ACTION	REMARKS
5. Bottom sub-frame (12).	a. Set in position on chassis frame (7). b. Install with eight bolts (9), washers (8), washers (10), and nuts (11).	Use a suitable hoist.
6. Top sub-frame (1).	a. Set in position on bottom sub-frame (12). b. Install eight bolts (4), washers (6), and nuts (5). c. Install eight bolts (2), tapered shims (3), tapered shims (15), washers (14), and nuts (13).	Use a suitable hoist.

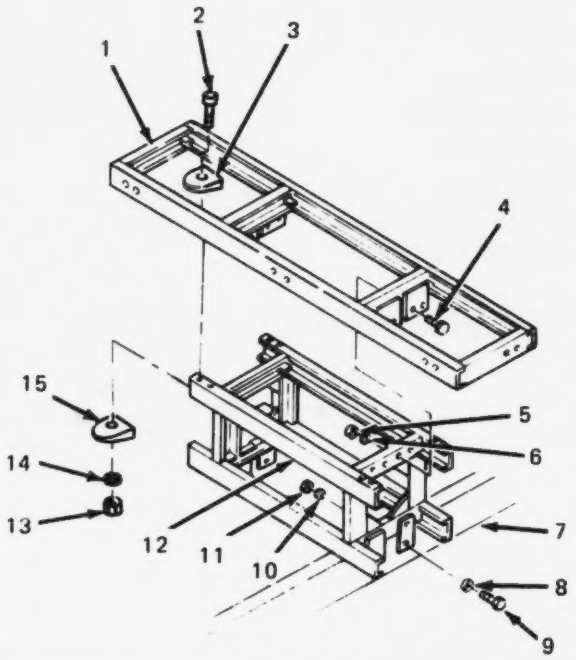
NOTE

Follow-on maintenance action required:

Install water tank (refer to para 5-14C).

LEGEND:

1. TOP SUB-FRAME
2. BOLT (8)
3. TAPERED SHIM (8)
4. BOLT (8)
5. NUT (8)
6. WASHER (8)
7. CHASSIS FRAME
8. WASHER (8)
9. BOLT (8)
10. WASHER (8)
11. NUT (8)
12. BOTTOM SUB-FRAME
13. NUT (8)
14. WASHER (8)
15. TAPERED SHIM (8)



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CHAPTER 6

ADMIX SYSTEMS

6-1. OVERVIEW.

This chapter provides you with the following information related to liquid admix systems maintenance.

a. All required special tools and equipment.

b. Troubleshooting procedures.

c. Maintenance procedures.

Section I REPAIR PARTS, SPECIAL TOOLS, TMDE, AND SUPPORT EQUIPMENT

6-2. COMMON TOOLS AND EQUIPMENT.

For authorized common tools and equipment, refer to the Modified Table of Organization and Equipment (MTOE) applicable to your unit.

6-3. SPECIAL TOOLS, TMDE, AND SUPPORT EQUIPMENT.

The special tools, TMDE, and support equipment for liquid and dry admix systems maintenance procedures described in this chapter are as follows. (Refer to Organizational Maintenance RPSTL, TM 5-3895-372-20P for tool description and illustration.)

a. Air pressure gage, 0-25 psi (0-172 kPa).

b. Stop watch.

c. Measuring container, 7 qt (6.6 l) minimum, calibrated in qts (or liters).

d. Measuring container, 150 oz (4436 ml) minimum, calibrated in oz (or milliliters).

6-4. SPARES AND REPAIR PARTS.

Spares and repair parts are listed and illustrated in the Repair Parts and Special Tools List covering Organizational Maintenance for this equipment (TM 5-3895-372-20P).

Section II TROUBLESHOOTING

6-5. INTRODUCTION.

Troubleshooting procedures for the wet admix systems are given in table 6-1. It is arranged by malfunctions, in the following order:

a. Air pressure cannot be maintained at 15 psi (Malfunction No. 1).
b. Liquid admix flows unevenly (Malfunction No. 2).
c. Liquid admix flows too quickly (Malfunction No. 3).
d. Liquid admix flows too slowly or not at all (Malfunction No. 4).
e. Quick opening valve sticks (Malfunction No. 5).
f. Flowmeter does not return to zero (Malfunction No. 6).
g. Dry admix system inoperative (Malfunction No. 7).

If only one liquid admix system malfunctions, apply the troubleshooting steps to that system only. If both systems malfunction, troubleshoot both of them.

You will find that most malfunctions are caused by a gelatinous or gummy sediment from the admixtures themselves. Remove sediment with the cleaning agent recommended by the admixture manufacturer.

Remind the operator:

a. Never mix admixtures in tanks.
b. Always flush and drain each system after use.

Table 6-1. Admix Systems Troubleshooting Procedures.

MALFUNCTION

TEST OR INSPECTION

CORRECTIVE ACTION

1. AIR PRESSURE CANNOT BE MAINTAINED AT 15 PSI (103 kPa):

Step 1. Check for open draincocks and vents.

Close all draincocks and vents.

Step 2. Use soap solution to check for air leaks.

Tighten loose fittings. Replace leaking valves or lines (para 6-14).

Step 3. Turn regulator in both directions. Watch gage for pressure response.

Replace faulty regulator (para 6-14).

Step 4. Attach pressure gage between regulator and gate valves. Check that it reads the same as pressure gage installed on regulator.

Replace pressure gage (para 6-14).

Step 5. Increase pressure to 18-20 psi (124-138 kPa). Check that relief valves vent when pressure reaches 18-20 psi (124-138 kPa).

Adjust relief valve (para 6-17).

Step 6. Check for blockage in supply line.

Remove obstruction or replace line (para 6=14).

Step 7. Check compressed air system for leaks.

Troubleshoot compressed air system (para 11-5).

2. LIQUID ADMIX FLOWS UNEVENLY:

Step 1. Check for 14½ - 15½ psi (100-107 kPa)air pressure.

See Malfunction No. 1.

Step 2. Check for leaks.

Tighten loose connections. Replace leaking lines or valves (para 6-14).

Step 3. Check for dirt or sediment in system.

Flush system. First use cleaning agent recommended by admixture manufacturer. Then use clean water.

Table 6-1. Admix Systems Troubleshooting Procedures (Continued).

MALFUNCTION

TEST OR INSPECTION

CORRECTIVE ACTION

2. LIQUID ADMIX FLOWS UNEVENLY (Continued):

Step 4. Check for blocked strainer.

Clean strainer (para 6-8).

Step 5. If temperature is below 32°F (0°C) check for frozen admix lines.

a. Open draincocks.

b. Apply heat to melt ice.

c. When ice is melted, close draincocks.

Step 6. Working from nozzles to tanks, check individual elements for blockage.

Clean or replace blocked lines or valves (para 6-14).

Step 7. Check down pipe for breakage or blocked breather.

Clean breather or replace pipe as needed.

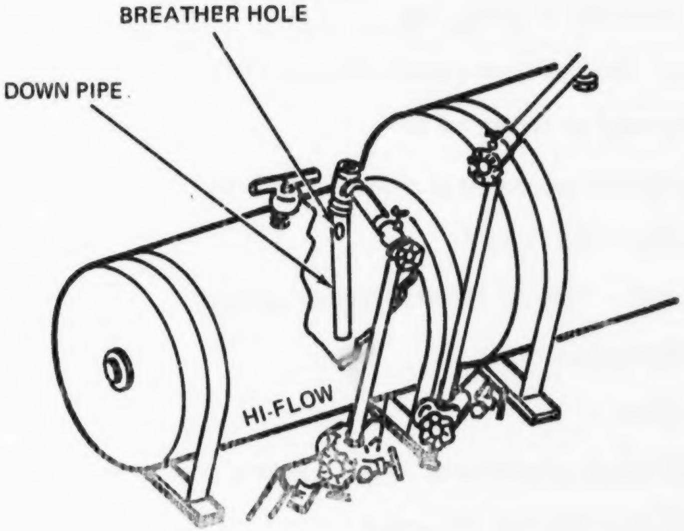

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Table 6-1. Admix Systems Troubleshooting Procedures (Continued).

MALFUNCTION

TEST OR INSPECTION

CORRECTIVE ACTION

3. LIQUID ADMIX FLOWS TOO QUICKLY:

Step 1. Check for 14½ - 15½ psi (100-107 kPa) air pressure.

See Malfunction No. 1.

Step 2. Check for relief valves venting at 15 psi (103.5 kPa). Bleed pressure. Remove vent and install test gage with 1/8 in. thread. Check pressure.

If gage is faulty, replace. Otherwise, adjust relief valve (para 6-17).

Step 3. Check flowmeter calibration (see para 6-10).

Replace faulty flowmeter (see para 6-10).

4. LIQUID ADMIX FLOWS TOO SLOWLY OR NOT AT ALL:

Step 1. Check for 14½ - 15½ psi (100-107 kPa) air pressure.

See Malfunction No. 1.

Step 2. Check for leaks.

Tighten loose connections. Replace leaking lines or valves (para 6-14).

Step 3. Check for dirt or sediment blocking system.

Flush system. First use cleaning agent recommended by admixture manufacturer. Then use clean water.

Step 4. Check for blocked strainer.

Clean strainer (para 6-8).

Step 5. If temperature is below 32°F (0°C) check for frozen admix lines.

a. Open draincocks.

b. Apply heat to melt ice.

c. When ice is melted, close draincocks.

Step 6. Check flowmeter calibration (para 6-10).

Repair or replace flowmeter. (See para 6-11 or 6-10).

Table 6-1. Admix Systems Troubleshooting Procedures (Continued).

MALFUNCTION

TEST OR INSPECTION

CORRECTIVE ACTION

4. LIQUID ADMIX FLOWS TOO SLOWLY OR NOT AT ALL (Continued):

Step 7. Check mechanical linkage between quick acting valve and main clutch lever. Valve should be opened fully when clutch is engaged.

Repair linkage. Check for broken down pipe or clogged breather in pipe.

Step 8. Beginning at nozzles and working back to tanks, check individual components for blockage. Be sure to check down pipes in tanks for blocked breather holes.

Clean or replace blocked lines or valves (para 6-14).

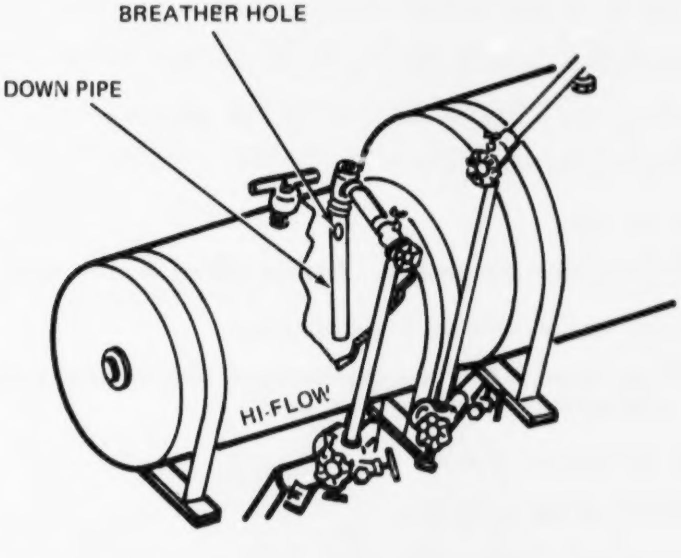

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Table 6-1. Admix Systems Troubleshooting Procedures (Continued).

MALFUNCTION

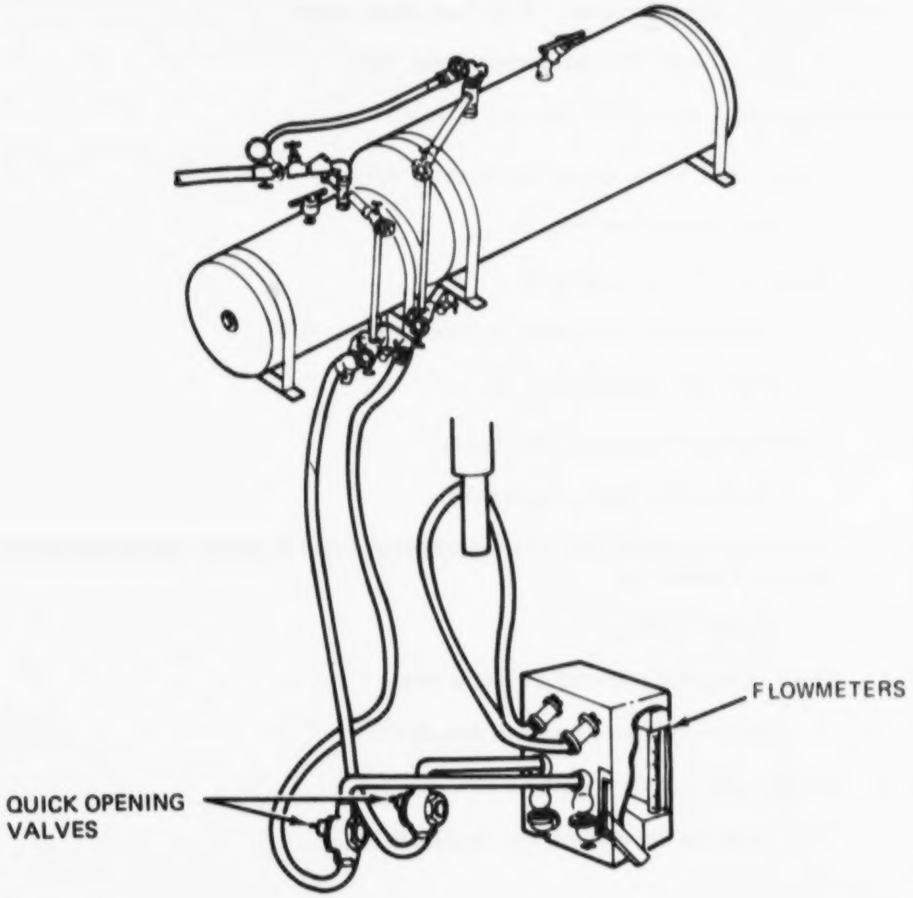
TEST OR INSPECTION

CORRECTIVE ACTION

5. QUICK OPENING VALVE STICKS:

Step 1. Check for sticking or binding as valve is opened and closed.

a. Lubricate valve stem with engine oil.


FLOWMETERS
QUICK OPENING VALVES

TA 076246

Table 6-1. Admix Systems Troubleshooting Procedures (Continued).

MALFUNCTION

TEST OR INSPECTION

CORRECTIVE ACTION

5. QUICK OPENING VALVE STICKS (Continued):

b. Check tightness of packing nut. Tighten until valve sticks, then back off just until valve operates freely.

Step 2. Check for sediment or gelatinous mass blocking valve.

a. Flush system. First use cleaning agent recommended by admixture manufacturer. Then use clean water.

b. Clean strainer screen (para 6-8).

6. FLOWMETER DOES NOT RETURN TO ZERO:

Step 1. Check whether quick acting valve is sticking.

See Malfunction No. 5.

Step 2. Check for dirt in flowmeter.

Disassemble and clean flowmeter (para 6-11).

7. DRY ADMIX SYSTEM INOPERATIVE:

Step 1. Check for main clutch engagement.

Adjust if necessary (para 4-18).

Step 2. Check for dry admix bin clutch engagement and if chains and sprockets are in operating condition.

Engage clutch.

Step 3. Check operation and correct dial setting.

Set dial indicator (refer to para 6-19).

Step 4. Check operation of dry admix bin.

Repair as necessary (refer to para 6-19).

Section III MAINTENANCE PROCEDURES

6-6. INTRODUCTION.

This section provides you with Organizational Level maintenance procedures for the liquid admix systems of the mixer body. Paragraph 6-7 summarizes the maintenance tasks. Paragraphs 6-8 thru 6-19 contain detailed instructions for each task.

6-7. LIQUID ADMIX SYSTEMS MAINTENANCE TASK SUMMARY.

INITIAL SETUP

APPLICABLE CONFIGURATIONS

M919.

TEST EQUIPMENT

None.

SPECIAL TOOLS

None.

MATERIALS/PARTS (P/N)

Cleaning Agent.
Liquid Teflon (Refer to Appendix C).
GAA - (Refer to Appendix C).
Silicone Grease (Refer to Appendix C).

PERSONNEL REQUIRED

One (MOS-62B20).

REFERENCES (TM)

TM 9-2320-273-10.
TM 5-3895-372-20P.
TM 5-3895-372-10.

REFERENCES (TROUBLESHOOTING)

Table 6-1.

EQUIPMENT CONDITION PARAGRAPH	CONDITION DESCRIPTION
TM 5-3895-372-10.	Solution Gate Valve Closed.
TM 5-3895-372-10.	Admixture Tanks Filled With Diluted Admixture Solution or Water.
TM 5-3895-372-10.	Admix System Drained.
TM 9-2320-273-10.	Air Pressure Drained.
TM 5-3895-372-10.	Liquid Admix Systems Drained and Flushed.
6-9A.	Sight Gage Removed.
TM 5-3895-372-10.	Bin Empty.

SPECIAL ENVIRONMENTAL CONDITIONS

Vehicle Parked on Level Ground.

GENERAL SAFETY INSTRUCTIONS

Engine Off.
Transmission in Neutral.
Parking Brake Set.

LIST OF TASKS

TASK NO.	TASK	TASK REF	TROUBLESHOOTING REF (TABLE)
1.	Strainer Service:	6-8	6-1
	A. Removal.	6-8A	
	B. Cleaning and Inspection.	6-8B	
	C. Installation.	6-8C	
2.	Sight Gages Maintenance:	6-9	6-1
	A. Removal.	6-9A	
	B. Cleaning.	6-9B	
	C. Installation.	6-9C	

6-7. LIQUID ADMIX SYSTEMS MAINTENANCE TASK SUMMARY (Continued).

LIST OF TASKS

TASK NO.	TASK	TASK REF	TROUBLESHOOTING REF (TABLE)
3.	Flowmeters Maintenance:	6-10	6-1
	A. Removal.	6-10A	
	B. Installation.	6-10B	
	C. Operational Check.	6-10C	
4.	Flowmeters Repair:	6-11	6-1
	A. Disassembly.	6-11A	
	B. Cleaning and Inspection.	6-11B	
	C. Assembly.	6-11C	
5.	Flowmeter Hose Maintenance:	6-12	6-1
	A. Removal.	6-12A	
	B. Installation.	6-12B	
6.	Flowmeter Valve Maintenance:	6-13	6-1
	A. Removal.	6-13A	
	B. Installation.	6-13B	
7.	Valves, Lines, and Fittings Maintenance:	6-14	6-1
	A. Removal.	6-14A	
	B. Inspection.	6-14B	
	C. Installation.	6-14C	
	D. Checking for Leaks.	6-14D	
8.	Liquid Admix Tanks Maintenance (Hi-Flow):	6-15	6-1
	A. Removal.	6-15A	
	B. Repair.	6-15B	
	C. Installation.	6-15C	
	D. Checking for Leaks.	6-15D	

6-7. LIQUID ADMIX SYSTEMS MAINTENANCE TASK SUMMARY (Continued).

LIST OF TASKS

TASK NO.	TASK	TASK REF	TROUBLESHOOTING REF (TABLE)
9.	Liquid Admix Tank Maintenance (Low-Flow):	6-16	6-1
	A. Removal.	6-16A	
	B. Repair.	6-16B	
	C. Installation.	6-16C	
	D. Checking for Leaks.	6-16D	
10.	Air Relief Valve Maintenance and Adjustment:	6-17	6-1
	A. Removal.	6-17A	
	B. Disassembly.	6-17B	
	C. Inspection.	6-17C	
	D. Assembly.	6-17D	
	E. Installation.	6-17E	
	F. Adjustment.	6-17F	
11.	Admix Injector Maintenance:	6-18	6-1
	A. Removal.	6-18A	
	B. Installation.	6-18B	
	C. Operational Check.	6-18C	
12.	Dry Admix Bin Maintenance:	6-19	6-1
	A. Removal.	6-19A	
	B. Disassembly.	6-19B	
	C. Cleaning and Inspection.	6-19C	
	D. Assembly.	6-19D	
	E. Installation.	6-19E	
	F. Test.	6-19F	

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6-8. STRAINER SERVICE.

THIS TASK COVERS: (APPROXIMATE TIME REQUIRED FOLLOWS TASK DESCRIPTION.)

a. Removal. (5)
b. Cleaning and Inspection. (10)
c. Installation. (5)
20 Minutes Total.

INITIAL SETUP

EQUIPMENT CONDITION PARAGRAPH	CONDITION DESCRIPTION
TM 5-3895-372-10.	Solution Gate Valve Closed.

APPLICABLE CONFIGURATIONS

M919.

TEST EQUIPMENT

None.

SPECIAL TOOLS

None.

MATERIALS/PARTS (P/N)

Cleaning Agent (Refer to Appendix C).

PERSONNEL REQUIRED

One (MOS-62B20).

REFERENCES (TM)

TM 5-3895-372-10.
TM 5-3895-372-20P.
TM 9-2320-273-10.

TROUBLESHOOTING REFERENCES

Table 6-1.

SPECIAL ENVIRONMENTAL CONDITIONS

Vehicle Parked on Level Ground.

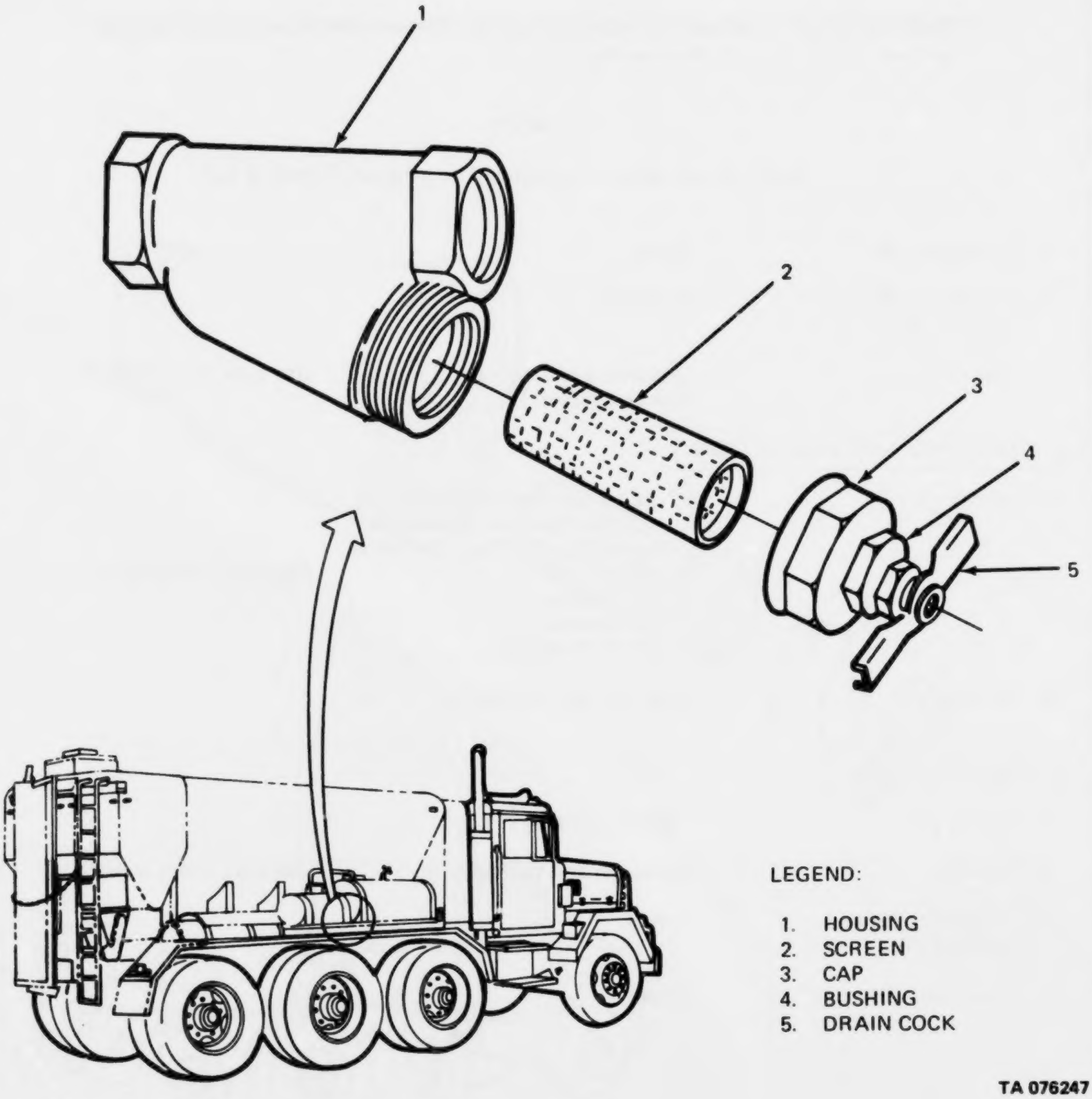
GENERAL SAFETY INSTRUCTIONS

Engine Off.
Transmission in Neutral.
Parking Brake Set.

ADMIX SYSTEMS.

6-8. STRAINER SERVICE. (Continued).

LOCATION/ITEM	ACTION	REMARKS



LEGEND:

1. HOUSING
2. SCREEN
3. CAP
4. BUSHING
5. DRAIN COCK

TA 076247

ADMIX SYSTEMS.

6-8. STRAINER SERVICE (Continued).

A. REMOVAL.

NOTE

Each liquid admix system has a strainer screen. The procedure below may be used to clean the hi-flow or the low-flow strainer.

NOTE

Close solution gate valve adjacent to strainer, if tank is full.

LOCATION/ITEM	ACTION	REMARKS
1. Draincock (5).	Open.	
2. Draincock (5) and bushing (4).	Remove.	
3. Cap (3).	Unscrew and remove. Remove screen (2).	Use a six point socket.

B. CLEANING AND INSPECTION.

LOCATION/ITEM	ACTION	REMARKS
4. Screen (2).	a. Clean. Use cleaning agent recommended by admixture manufacturer. Then use water.	
	b. Inspect for: (1) Cracks. (2) Breaks. (3) Deformities.	Replace if necessary.
5. Housing (1).	Wash out any sediment.	

C. INSTALLATION.

LOCATION/ITEM	ACTION	REMARKS
6. Screen (2).	Place in housing (1).	
7. Cap (3).	Screw on and tighten.	Use a six point socket.
8. Draincock (5) and bushing (4).	Install.	
9. Draincock (5).	Close.	

ADMIX SYSTEMS.

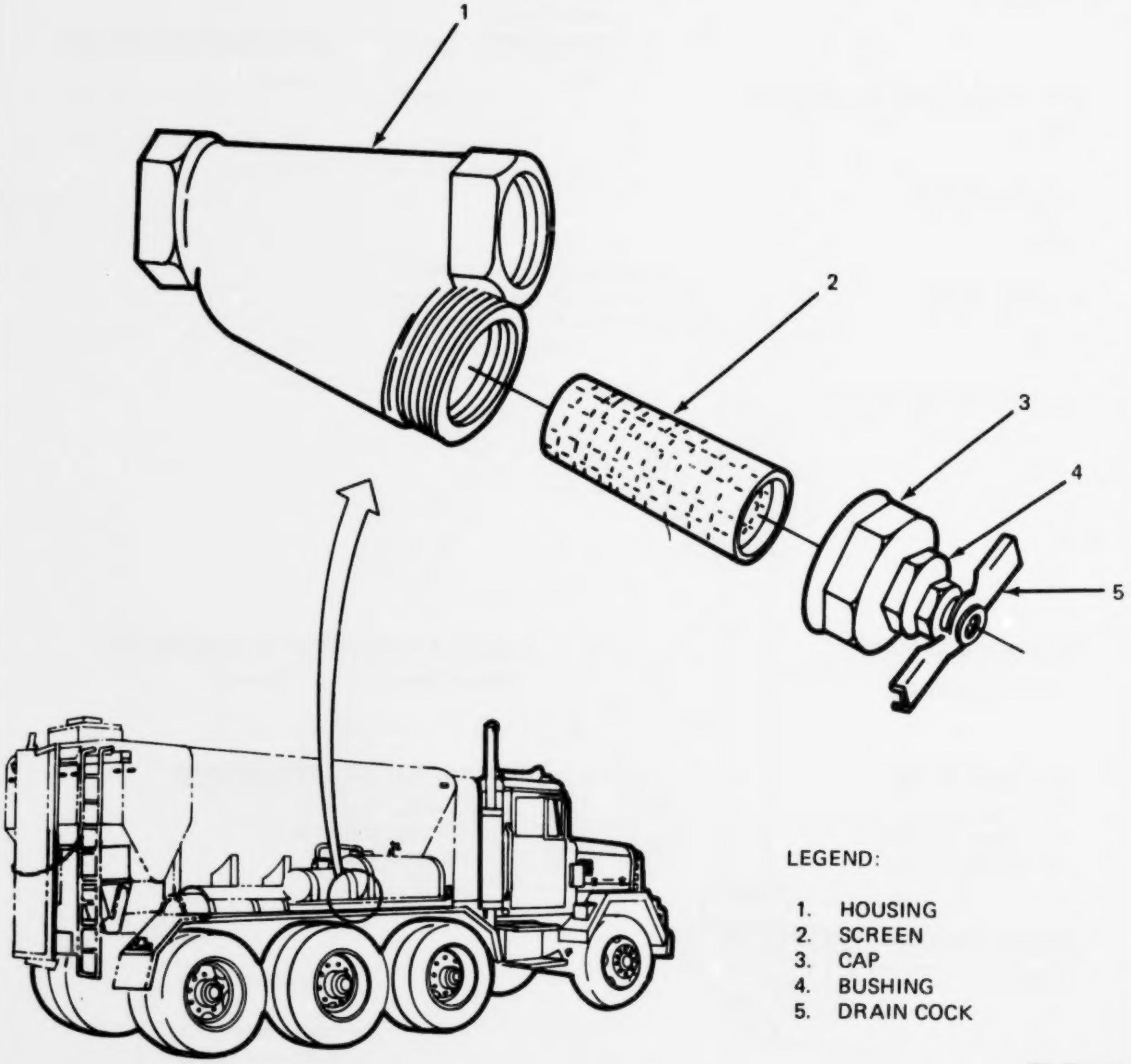
6-8. STRAINER SERVICE (Continued).

LOCATION/ITEM	ACTION	REMARKS

C. INSTALLATION (Continued).

NOTE

After draincock is closed, you may open the solution gate valve and check operation.



LEGEND:

1. HOUSING
2. SCREEN
3. CAP
4. BUSHING
5. DRAIN COCK

TA 076248

ADMIX SYSTEMS.

6-9. SIGHT GAGES MAINTENANCE.

THIS TASK COVERS: (APPROXIMATE TIME REQUIRED FOLLOWS TASK DESCRIPTION.)

a. Removal.	(2)
b. Cleaning.	(6).
c. Installation.	(2)
	10 Minutes Total.

INITIAL SETUP

EQUIPMENT CONDITION PARAGRAPH	CONDITION DESCRIPTION
None.	None.

APPLICABLE CONFIGURATIONS

M919.

TEST EQUIPMENT

None.

SPECIAL TOOLS

None.

MATERIALS/PARTS (P/N)

Cleaning Agent.

PERSONNEL REQUIRED

One (MOS-62B20).

REFERENCES (TM)

TM 5-3895-372-10.
TM 5-3895-372-20P.
TM 9-2320-273-10.

TROUBLESHOOTING REFERENCES

Table 6-1.

SPECIAL ENVIRONMENTAL CONDITIONS

Vehicle Parked on Level Ground.

GENERAL SAFETY INSTRUCTIONS

Engine Off.
Transmission in Neutral.
Parking Brake Set.

ADMIX SYSTEMS.

6-9. SIGHT GAGES MAINTENANCE (Continued).

A. REMOVAL.

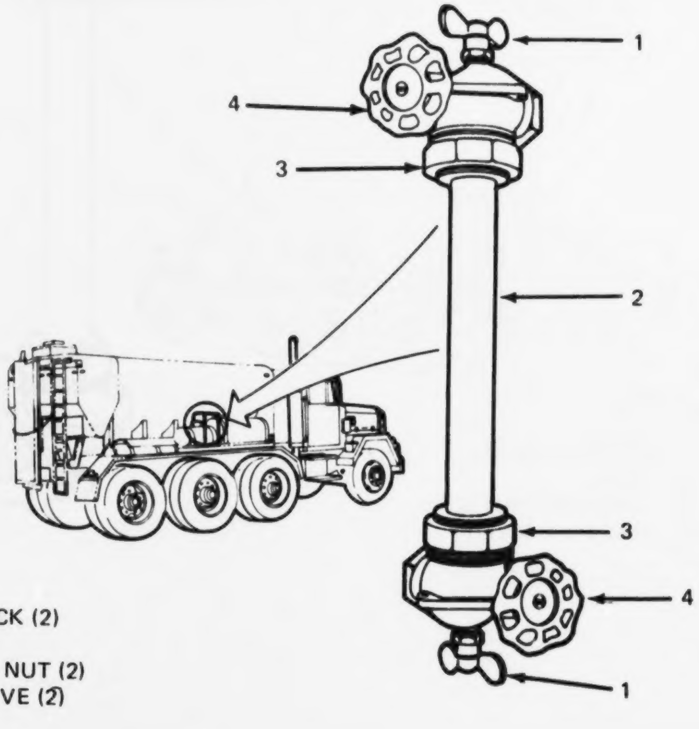
NOTE

The two liquid admix sight gages are identical except for the length of the tube. Use the procedure below for the hi-flow or the lo-flow sight gage.

LOCATION/ITEM	ACTION	REMARKS
1. Two gage valves (4).	Close.	
2. Two draincocks (1).	Open.	
3. Two grommet nuts (3).	a. Loosen. b. Remove tube (2).	

B. CLEANING.

LOCATION/ITEM	ACTION	REMARKS
4. Tube (2).	Clean. Use cleaning agent recommended by admixture manufacturer. Rinse thoroughly with clean water.	



LEGEND:

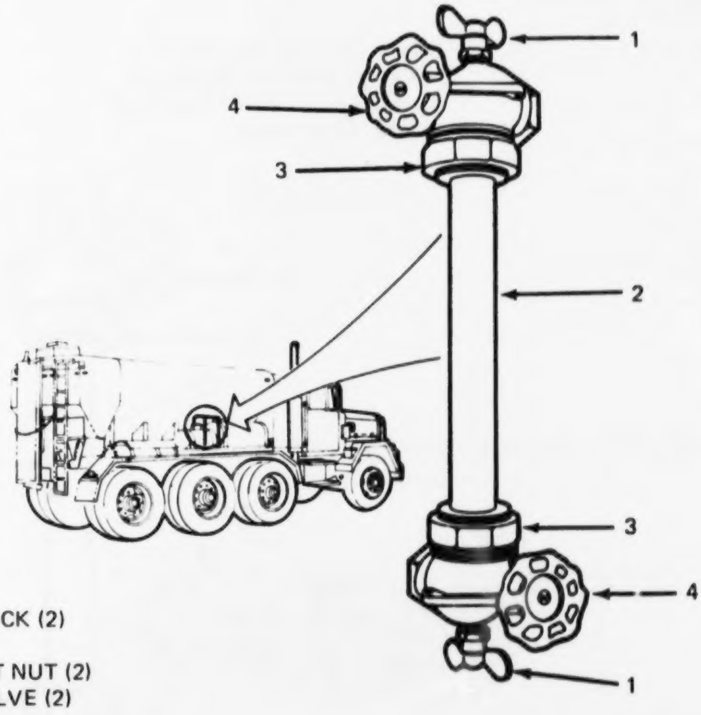
1. DRAIN COCK (2)
2. TUBE
3. GROMMET NUT (2)
4. GAGE VALVE (2)

TA 076249

ADMIX SYSTEMS.

6-9. SIGHT GAGES MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS
C. INSTALLATION.		
5. Tube (2).	Set in place.	
6. Two grommet nuts (3).	Tighten to hold tube (2).	
7. Two gage valves (4).	Open.	
8. Two draincocks (1).	Close.	



LEGEND:

1. DRAIN COCK (2)
2. TUBE
3. GROMMET NUT (2)
4. GAGE VALVE (2)

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ADMIX SYSTEMS.

6-10. FLOWMETERS MAINTENANCE.

THIS TASK COVERS: (APPROXIMATE TIME REQUIRED FOLLOWS TASK DESCRIPTION.)

a. Removal.	(10)
b. Installation.	(10)
c. Operational Check.	(20)
	40 Minutes Total.

INITIAL SETUP

EQUIPMENT CONDITION PARAGRAPH	CONDITION DESCRIPTION
TM 5-3895-372-10.	Admixture Tanks Filled With Diluted Admixture Solution or Water.
TM 9-2320-273-10.	Air Pressure Drained.

APPLICABLE CONFIGURATIONS

M919.

TEST EQUIPMENT

None.

SPECIAL TOOLS

None.

MATERIALS/PARTS (P/N)

Liquid Teflon (Refer to Appendix C).

PERSONNEL REQUIRED

One (MOS-62B20).

REFERENCES (TM)

TM 5-3895-372-10.
TM 5-3895-372-20P.
TM 9-2320-273-10.

TROUBLESHOOTING REFERENCES

Table 6-1.

SPECIAL ENVIRONMENTAL CONDITIONS

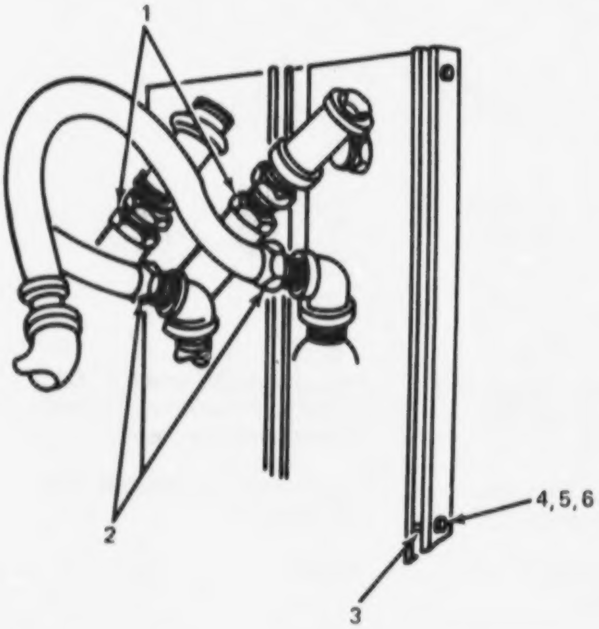
Vehicle Parked on Level Ground.

GENERAL SAFETY INSTRUCTIONS

Engine Off.
Transmission in Neutral.
Parking Brake Set.

6-10. FLOWMETERS MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS
A. REMOVAL.		
1. Two swivel nuts (2).	Remove.	Tag hoses for location.
2. Two swivel nuts (1).	Remove.	Tag hoses for location.
3. Four bolts (5), nuts (6) and lockwashers (4).	Remove.	
4. Four spacers (3).	Remove.	



LEGEND:

1. SWIVEL NUT (2)
2. SWIVEL NUT (2)
3. SPACER (4)
4. LOCKWASHER (4)
5. BOLT (4)
6. NUT (4)

TA 076251

6-10. FLOWMETERS MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS
A. REMOVAL (Continued).		
5. Two flowmeters (23).	Remove from vehicle.	
6. Two bolts (19), nuts (20) and six spacers (21).	Remove.	Separate flowmeters (23).
NOTE The following describes the removal of any one of the flowmeters.		
7. Tee (16), adapter (17) and nipple (18).	Remove.	
8. Two screws (13), nut (14) and lockwasher (15).	Remove.	
9. Lever (7).	Remove.	
10. Elbow (8) and adapter (9).	Remove.	
11. Four screws (10), lockwasher (11) and flatwasher (12).	Remove.	Separate flowmeter (23) from bracket (22).
B. INSTALLATION.		
12. Four screws (10), lockwasher (11) and flatwasher (12).	Install through bracket (22) and into flowmeter (23) and tighten securely.	
13. Two bolts (19), nuts (20) and spacers (21).	Install through brackets (22) and tighten.	
14. Elbow (8) and adapter (9).	Install.	Use liquid teflon on threaded joints.
15. Lever (7).	Install.	
16. Two screws (13), nut (14) and lockwashers (15).	Install.	
17. Tee (16), adapter (17) and nipple (18).	Install.	Coat threads with liquid teflon.
18. Two flowmeters (23).	Install in vehicle.	

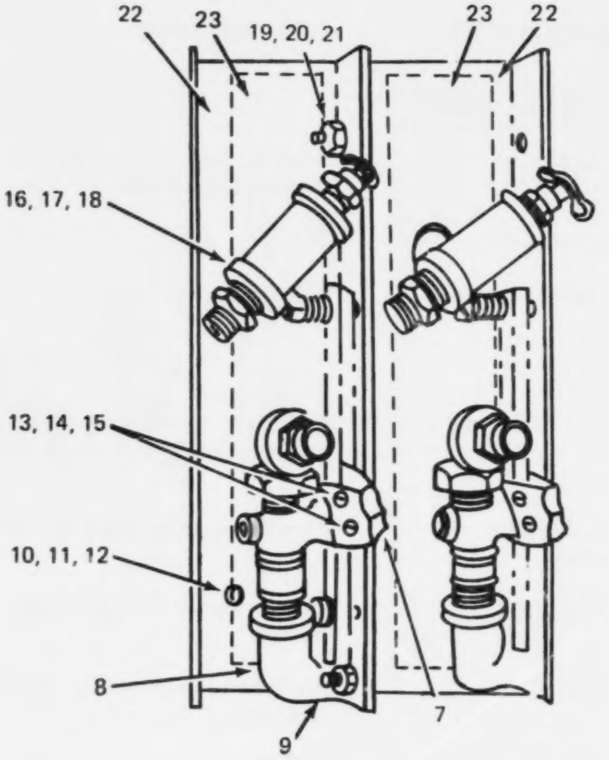
ADMIX SYSTEMS.

6-10. FLOWMETERS MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS

LEGEND:

7. LEVER
8. ELBOW
9. ADAPTER
10. SCREW (4)
11. LOCKWASHER (4)
12. FLAT WASHER (4)
13. SCREW (2)
14. NUT (2)
15. LOCKWASHER (2)
16. TEE
17. ADAPTER
18. NIPPLE
19. BOLT (2)
20. NUT (2)
21. SPACER (6)
22. BRACKET (2)
23. FLOWMETER (2)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TA 076252

ADMIX SYSTEMS.

6-10. FLOWMETERS MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS
B. INSTALLATION (Continued).		
19. Four spacers (3).	Install.	
20. Four bolts (5), nuts (6) and lockwashers (4).	Install and tighten.	
21. Two swivel nuts (1).	Install and tighten.	Outlet hoses.
22. Two swivel nuts (2).	Install and tighten.	Inlet hoses.
C. OPERATIONAL CHECK.		
23. Mixer body.	Start up (see TM 9-2320-273-10 and TM 5-3895-372-10).	
24. Air shut-off valve.	Open.	
25. Air pressure regulator.	Set to exactly 15 psi (103 kPa).	

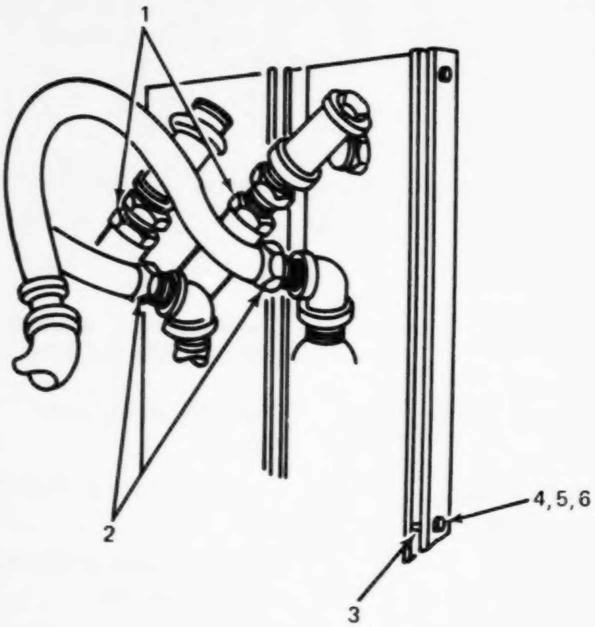
NOTE

The PTO should be disengaged during the following check. The two flowmeters are identical. Use the following procedure to check either of them.

LOCATION/ITEM	ACTION	REMARKS
26. Air and solution gate valves.	Open on system being checked.	See TM 5-3895-372-10.
27. Flowmeter (23).	Set to exactly 5.8 quarts per minute.	
28. Container.	Position to catch all liquid from nozzles.	
29. Main clutch lever.	a. Pull towards rear to open valve. Start the stopwatch at the same time. b. Push forward after exactly one minute. Stop stopwatch.	

6-10. FLOWMETERS MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS
C. OPERATIONAL CHECK (Continued).		
30. Container.	a. Record amount of admixture solution in container. b. Empty container.	



LEGEND:

1. SWIVEL NUT (2)
2. SWIVEL NUT (2)
3. SPACER (4)
4. LOCKWASHER (4)
5. BOLT (4)
6. NUT (4)

TA 076253

ADMIX SYSTEMS.

6-10. FLOWMETERS MAINTENANCE (Continued).

C. OPERATIONAL CHECK (Continued).

NOTE

Repeat steps 28 thru 30 four more times.

LOCATION/ITEM	ACTION	REMARKS
31. Worksheet.	a. Add the five amounts you wrote down. b. Divide by five. Your answer should be 6 qts, ±1/8 qt, (or 4 oz), (5.68 liters ± 0.12 liters).	

NOTE

If your answer is not within acceptable limits perform steps 32 thru 36.

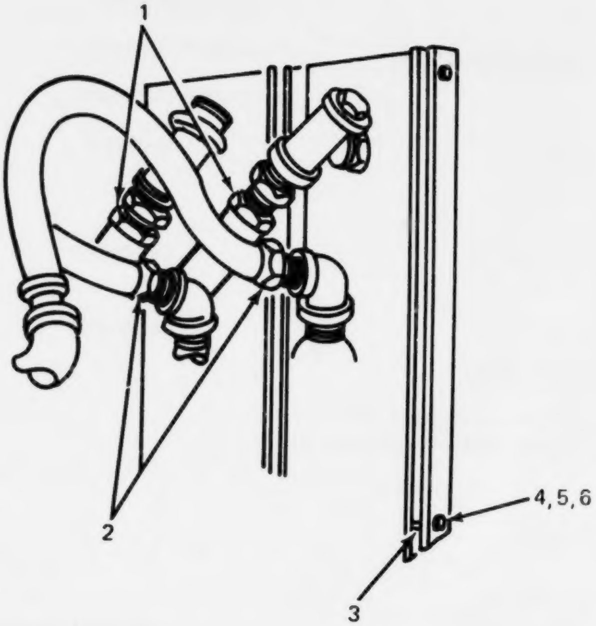
LOCATION/ITEM	ACTION	REMARKS
32. Air pressure gage.	Check pressure. Must be 14½ - 15½ psi (100-107 kPa).	Adjust pressure.
33. Solution tank.	Check for air or liquid leaks.	Replace, if necessary.
34. Pipes, flexible hoses, and connections.	Check for leaks or blockage.	Remove blockage or replace part.
35. Valves and tank down pipe.	Check for leaks or blockage and functioning.	Remove blockage or replace part.
36. Pressure gage.	Insert test gage between admix air pressure gage and gate valves. Compare readings.	If admix air pressure gage is faulty, replace it.

NOTE

Recheck operation check after performing steps 32 thru 36.

6-10. FLOWMETERS MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS



LEGEND:

1. SWIVEL NUT (2)
2. SWIVEL NUT (2)
3. SPACER (4)
4. LOCKWASHER (4)
5. BOLT (4)
6. NUT (4)

TA 076254

ADMIX SYSTEMS.

6-11. FLOWMETERS REPAIR.

THIS TASK COVERS: (APPROXIMATE TIME REQUIRED FOLLOWS TASK DESCRIPTION.)

a. Disassembly.	(10)
b. Cleaning and Inspection.	(10)
c. Assembly.	(10)
	30 Minutes Total.

INITIAL SETUP

EQUIPMENT CONDITION PARAGRAPH	CONDITION DESCRIPTION
None.	None.

APPLICABLE CONFIGURATIONS

M919.

TEST EQUIPMENT

None.

SPECIAL TOOLS

None.

MATERIALS/PARTS (P/N)

Silicone Grease (Refer to Appendix C).
Dry Cleaning Solvent (Refer to Appendix C).

PERSONNEL REQUIRED

One (MOS-62B20).

REFERENCES (TM)

TM 5-3895-372-10.
TM 5-3895-372-20P.
TM 9-2320-273-10.

TROUBLESHOOTING REFERENCES

Table 6-1.

SPECIAL ENVIRONMENTAL CONDITIONS

Vehicle Parked on Level Ground.

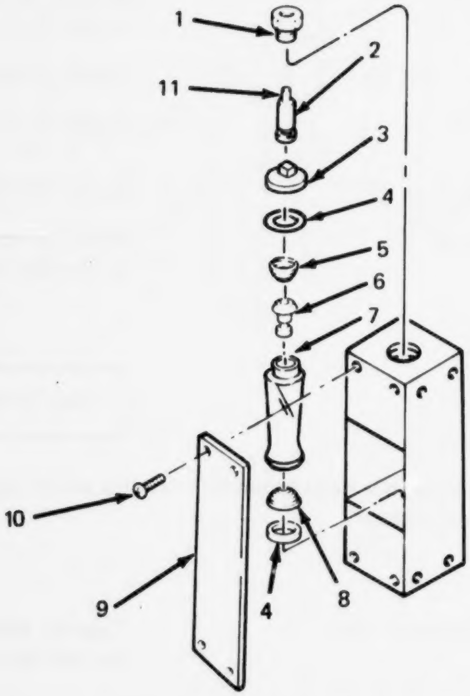
GENERAL SAFETY INSTRUCTIONS

Engine Off.
Transmission in Neutral.
Parking Brake Set.

6-11. FLOWMETERS REPAIR (Continued).

A. DISASSEMBLY.

LOCATION/ITEM	ACTION	REMARKS
1. Four screws (10).	Remove.	
2. Plexiglass (9).	Remove.	
3. Jam nut (1).	Loosen.	
4. Meter tube (7).	Remove.	
5. Upper spring (5).	Remove from tube.	
6. Float (6).	Remove from tube.	
7. Lower spring (8).	Remove from tube.	
8. Jam nut (1).	Remove.	Hold setscrew (11) with hex key wrench while turning nut.
9. Retainer stem (2) and retainer (3).	Remove.	Through inside of housing.
10. O-rings (4).	Remove.	Lubricate with silicone grease.



LEGEND:

1. JAM NUT
2. RETAINER STEM
3. RETAINER
4. O-RING (2)
5. UPPER SPRING
6. FLOAT
7. METER TUBE
8. LOWER SPRING
9. PLEXIGLASS
10. SCREW (4)
11. SETSCREW

TA 076255

ADMIX SYSTEMS.

6-11. FLOWMETERS REPAIR (Continued).

LOCATION/ITEM	ACTION	REMARKS
B. CLEANING AND INSPECTION.		
11. Flowmeter.	a. Clean all parts of sediment and admix build-up.	Clean in solvent. Do not allow rubber components to come in contact with solvent.
	b. Replace any parts that are damaged and/or are not able to be cleaned sufficiently.	
C. ASSEMBLY.		
12. Retainer stem (2). and retainer (3).	Install.	Through inside of housing.
13. Jam nut (1).	Install.	Hold setscrew (11) with hex key wrench while turning nut. Do not tighten.
14. Retainer stem (2) and retainer (3).	Retract into end fitting until retainer is flush with bottom of end fitting.	
15. Lower spring (8).	Install in meter tube.	
16. Float (6).	Install in meter tube.	Pin wheel towards spring.
17. Upper spring (5).	Install in meter tube.	
18. Meter tube (7).	Install in housing and center in O-rings (4).	Calibration numbers toward the front.

CAUTION

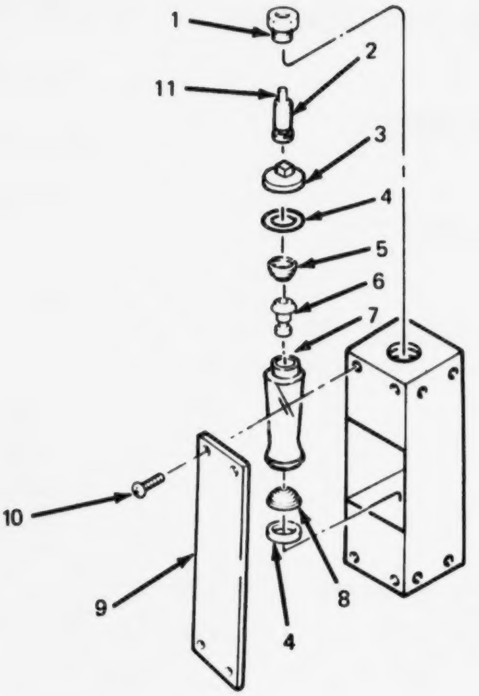
If tube is not centered in O-rings when tightening, damage to the meter tube will occur.

LOCATION/ITEM	ACTION	REMARKS
19. Retainer stem (2).	Tighten carefully until meter cannot be rotated with fingers.	Use hex key wrench.

6-11. FLOWMETERS REPAIR (Continued).

C. ASSEMBLY (Continued).

LOCATION/ITEM	ACTION	REMARKS
20. Jam nut (1).	Tighten.	Do not overtighten.
21. Plexiglass (9).	Install with four screws (10).	



LEGEND:

1. JAM NUT
2. RETAINER STEM
3. RETAINER
4. O-RING (2)
5. UPPER SPRING
6. FLOAT
7. METER TUBE
8. LOWER SPRING
9. PLEXIGLASS
10. SCREW (4)
11. SETSCREW

TA 076256

ADMIX SYSTEMS.

6-12. FLOWMETER HOSE MAINTENANCE.

THIS TASK COVERS: (APPROXIMATE TIME REQUIRED FOLLOWS TASK DESCRIPTION.)

a. Removal.	(5)
b. Installation.	(5)
	10 Minutes Total.

INITIAL SETUP

APPLICABLE CONFIGURATIONS

M919.

TEST EQUIPMENT

None.

SPECIAL TOOLS

None.

MATERIALS/PARTS (P/N)

Liquid Teflon (Refer to Appendix C).

EQUIPMENT CONDITION PARAGRAPH	CONDITION DESCRIPTION
TM 5-3895-372-10.	Admixture Tanks Filled With Diluted Admixture Solution or Water.
TM 9-2320-273-10.	Air Pressure Drained.

PERSONNEL REQUIRED

One (MOS-62B20).

REFERENCES (TM)

TM 5-3895-372-10.
TM 5-3895-372-20P.
TM 9-2320-273-10.

TROUBLESHOOTING REFERENCES

Table 6-1.

SPECIAL ENVIRONMENTAL CONDITIONS

Vehicle Parked on Level Ground.

GENERAL SAFETY INSTRUCTIONS

Engine Off.
Transmission in Neutral.
Parking Brake Set.

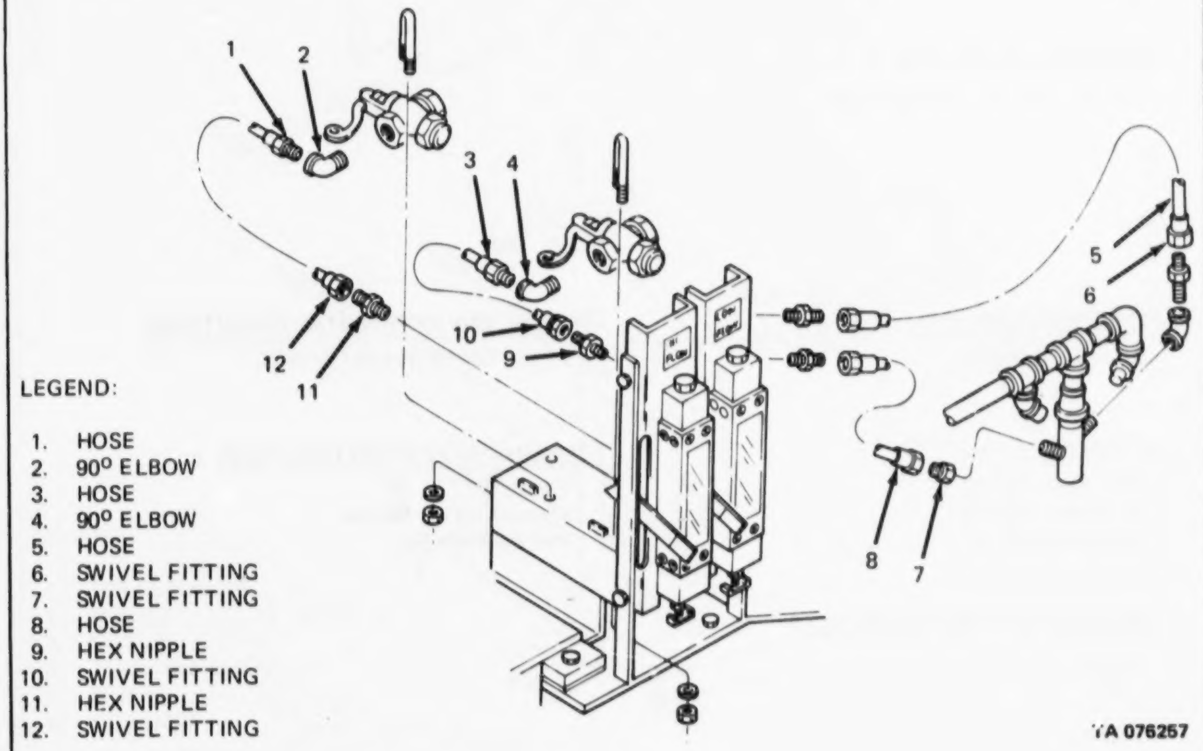
6-12. FLOWMETER HOSE MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS
A. REMOVAL.		

NOTE

The following procedure describes removal and installation for hose (1). Similar procedures can be used for removal and installation of hoses (3), (5) and (8).

LOCATION/ITEM	ACTION	REMARKS
1. Swivel fitting (12).	Remove from hex nipple (11).	
2. Hose (1).	Remove from 90° elbow (2).	
B. INSTALLATION.		
3. Hose (1).	Install on 90° elbow (2).	
4. Swivel fitting (12).	Instll on hex nipple (11).	



LEGEND:

1. HOSE
2. 90° ELBOW
3. HOSE
4. 90° ELBOW
5. HOSE
6. SWIVEL FITTING
7. SWIVEL FITTING
8. HOSE
9. HEX NIPPLE
10. SWIVEL FITTING
11. HEX NIPPLE
12. SWIVEL FITTING

TA 076257

ADMIX SYSTEMS.

6-13. FLOWMETER VALVE MAINTENANCE.

THIS TASK COVERS: (APPROXIMATE TIME REQUIRED FOLLOWS TASK DESCRIPTION.)

a. Removal.	(5)
b. Installation.	(5)
	10 Minutes Total.

INITIAL SETUP

APPLICABLE CONFIGURATIONS

M919.

TEST EQUIPMENT

None.

SPECIAL TOOLS

None.

MATERIALS/PARTS (P/N)

Liquid Teflon (See Appendix C).

EQUIPMENT CONDITION PARAGRAPH	CONDITION DESCRIPTION
6-12A.	Hoses Removed.
TM 9-2320-273-10.	Air Pressure Drained.

PERSONNEL REQUIRED

One (MOS-62B20).

REFERENCES (TM)

TM 5-3895-372-10.
TM 5-3895-372-20P.
TM 9-2320-273-10.

TROUBLESHOOTING REFERENCES

Table 6-1.

SPECIAL ENVIRONMENTAL CONDITIONS

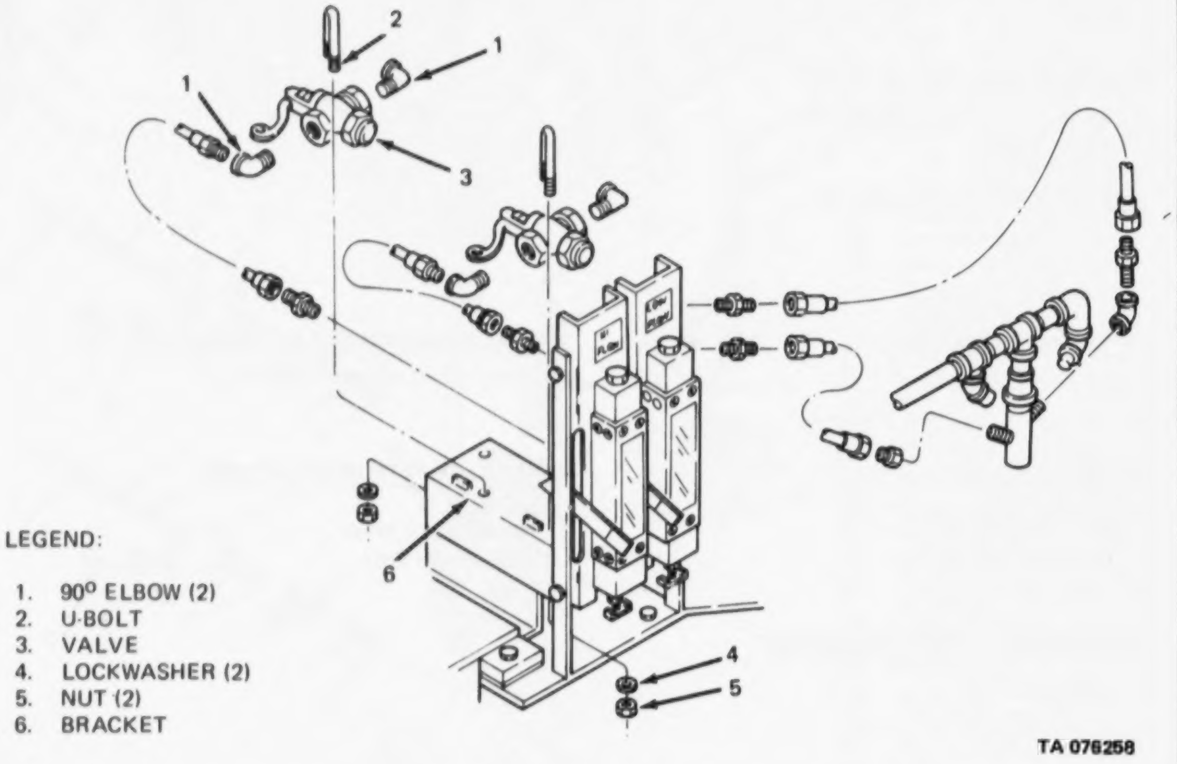
Vehicle Parked on Level Ground.

GENERAL SAFETY INSTRUCTIONS

Engine Off.
Transmission in Neutral.
Parking Brake Set.

6-13. FLOWMETER VALVE MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS
A. REMOVAL.		
1. Two 90° elbows (1).	Remove from valve (3).	
2. Two nuts (5) and lockwashers (4).	Remove from U-bolt (2).	
3. U-bolt (2).	Remove from valve (3).	
4. Valve (3).	Remove from bracket (6).	
B. INSTALLATION.		
5. Valve (3).	Install on bracket (6).	
6. U-bolt (2).	Install on valve (3).	
7. Two nuts (5) and lockwashers (4).	Install on U-bolt (2).	
8. Two 90° elbows (1).	Install on valve (3).	



LEGEND:

1. 90° ELBOW (2)
2. U-BOLT
3. VALVE
4. LOCKWASHER (2)
5. NUT (2)
6. BRACKET

TA 076258

ADMIX SYSTEMS.

6-14. VALVES, LINES, AND FITTINGS MAINTENANCE.

THIS TASK COVERS: (APPROXIMATE TIME REQUIRED FOLLOWS TASK DESCRIPTION.)

a. Removal.	(5)
b. Inspection.	(15)
c. Installation.	(5)
d. Checking for leaks.	(5)
	30 Minutes Total.

INITIAL SETUP

EQUIPMENT CONDITION PARAGRAPH	CONDITION DESCRIPTION
TM 5-3895-372-10.	Admix System Drained.
TM 9-2320-273-10.	Drain Air System.

APPLICABLE CONFIGURATIONS

M919.

TEST EQUIPMENT

None.

SPECIAL TOOLS

None.

MATERIALS/PARTS (P/N)

Cleaning Agent (See Appendix C).
Masking Tape.
Marker Pen.
Liquid Teflon (See Appendix C).

PERSONNEL REQUIRED

One (MOS-62B20).

SPECIAL ENVIRONMENTAL CONDITIONS

Vehicle Parked on Level Ground.

REFERENCES (TM)

TM 5-3895-372-10.
TM 5-3895-372-20P.
TM 9-2320-273-10.

GENERAL SAFETY INSTRUCTIONS

Engine Off.
Transmission in Neutral.
Parking Brake Set.

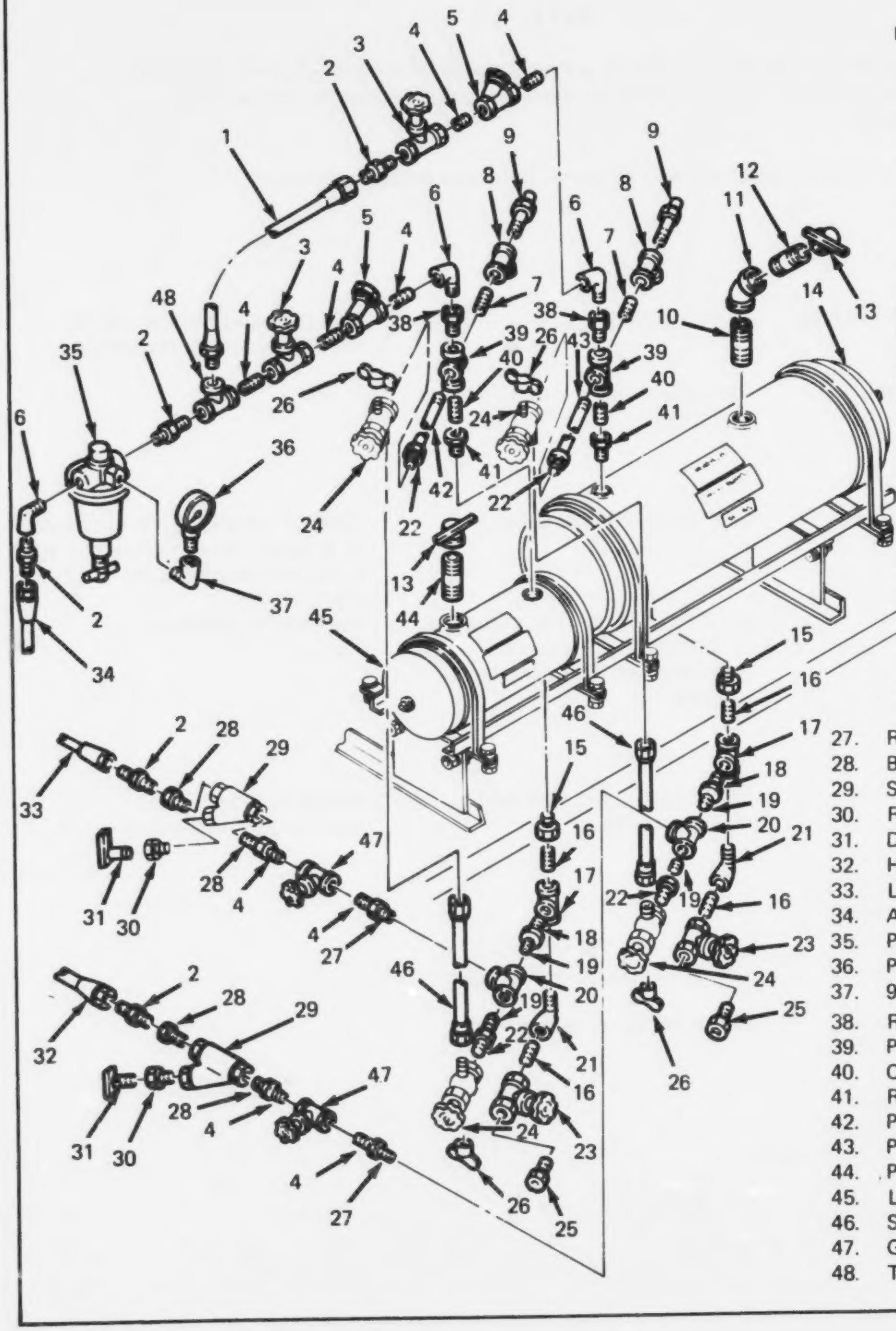
TROUBLESHOOTING REFERENCES

Table 6-1.

ADMIX SYSTEMS.

6-14. VALVES. LINES, AND FITTINGS MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS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LEGEND:

1. AIR LINE
2. HEX ADAPTER
3. GATE VALVE (2)
4. CLOSE NIPPLE (9)
5. CHECK VALVE (2)
6. 90° STREET ELBOW
7. PIPE NIPPLE
8. RELIEF VALVE (2)
9. PIPE NIPPLE
10. PIPE NIPPLE
11. 45° ELBOW
12. PIPE NIPPLE
13. FILL CAP (2)
14. HI-FLOW TANK
15. REDUCER BUSHING
16. CLOSE NIPPLE (4)
17. TEE (2)
18. REDUCER BUSHING
19. CLOSE NIPPLE
20. TEE (2)
21. 90° STREET ELBOW
22. COUPLING (4)
23. GATE VALVE (2)
24. GAUGE VALVE (4)
25. BUSHING
26. DRAIN COCK (4)
27. REDUCER BUSHING (2)
28. BUSHING (4)
29. STRAINER (2)
30. REDUCER BUSHING (2)
31. DRAIN COCK (2)
32. HI-FLOW HOSE
33. LO-FLOW HOSE
34. AIR LINE
35. PRESSURE REGULATOR
36. PRESSURE GAUGE
37. 90° STREET ELBOW
38. REDUCER BUSHING (2)
39. PIPE CROSS
40. CLOSE NIPPLE (2)
41. REDUCER BUSHING (2)
42. PIPE NIPPLE
43. PIPE NIPPLE
44. PIPE NIPPLE
45. LO-FLOW TANK
46. SIGHT GLASS (2)
47. GATE VALVE (2)
48. TEE

TA 076259

ADMIX SYSTEMS.

6-14. VALVES, LINES, AND FITTINGS MAINTENANCE (Continued).

NOTE

The illustration shows layout and main components of the liquid admix systems. To replace any valve, line, or fitting of the liquid admix systems, follow these general steps.

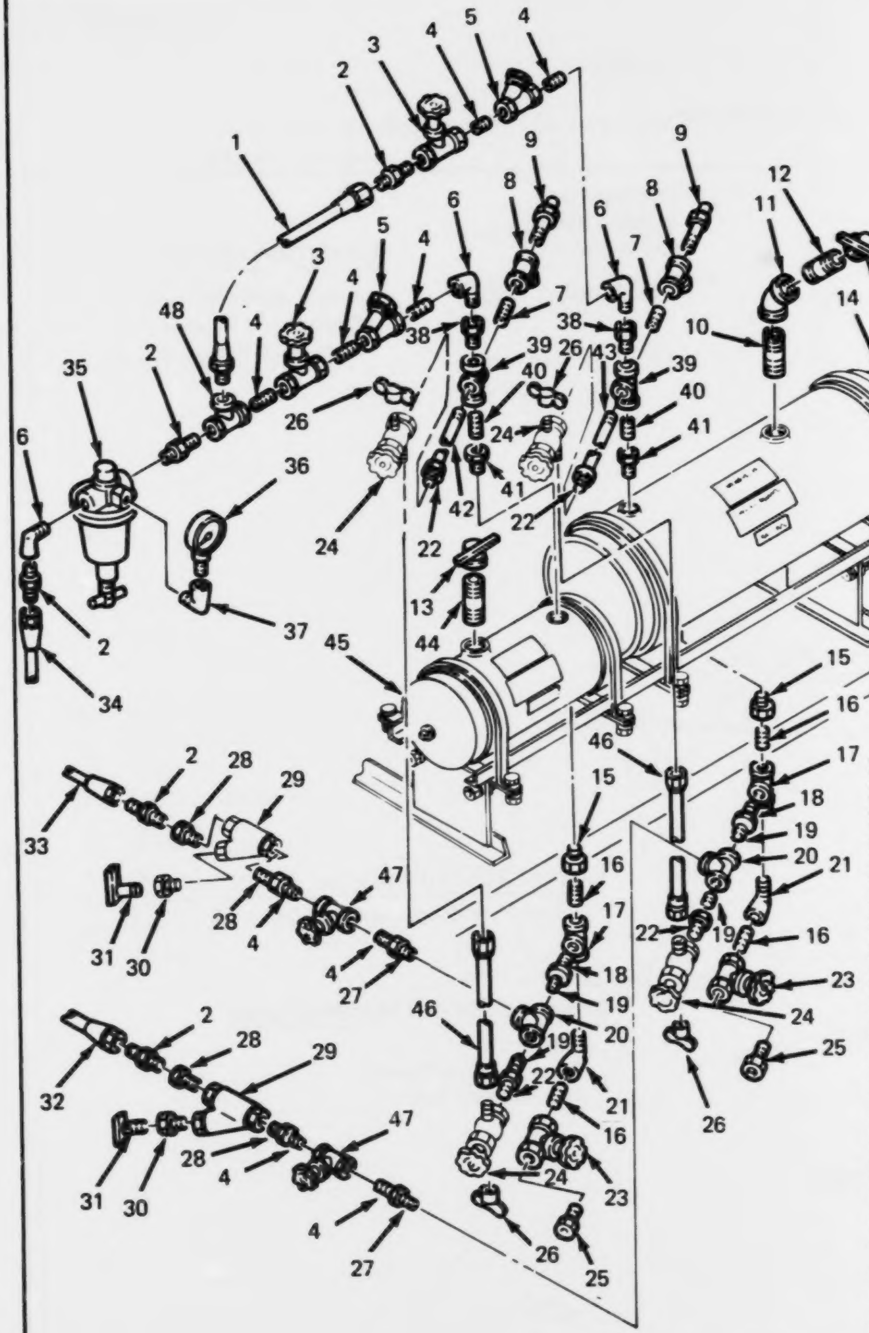
Be sure the system is drained and air pressure is bled before you start.

LOCATION/ITEM	ACTION	REMARKS
A. REMOVAL.		
1. Attached lines and fittings.	Disconnect.	Use tape and marker pen to identify lines for reassembly.
2. Valves and fittings.	Remove using standard shop practices.	
B. INSPECTION.		
3. Line, valve, or fitting.	a. Inspect for blockage.	Clean if needed. First use cleansing agent recommended by admixture manufacturer. Then use clean water.
	b. Check for leaks or damaged fittings. Also inspect threads on attaching hardware.	Replace, if necessary.
C. INSTALLATION.		
4. Attaching lines, fittings, and valves.	Reconnect using standard shop practices.	Install in locations as marked at disassembly.
D. CHECKING FOR LEAKS.		
5. Mixer body.	Start up (see TM 9-2320-273-10 and TM 5-3895-372-10).	
6. Liquid admix systems.	Check for air or admix leaks.	

ADMIX SYSTEMS.

6-14. VALVES, LINES, AND FITTINGS MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS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LEGEND:

1. AIR LINE
2. HEX ADAPTER
3. GATE VALVE (2)
4. CLOSE NIPPLE (9)
5. CHECK VALVE (2)
6. 90° STREET ELBOW
7. PIPE NIPPLE
8. RELIEF VALVE (2)
9. PIPE NIPPLE
10. PIPE NIPPLE
11. 45° ELBOW
12. PIPE NIPPLE
13. FILL CAP (2)
14. HI-FLOW TANK
15. REDUCER BUSHING
16. CLOSE NIPPLE (4)
17. TEE (2)
18. REDUCER BUSHING
19. CLOSE NIPPLE
20. TEE (2)
21. 90° STREET ELBOW
22. COUPLING (4)
23. GATE VALVE (2)
24. GAUGE VALVE (4)
25. BUSHING
26. DRAIN COCK (4)
27. REDUCER BUSHING (2)
28. BUSHING (4)
29. STRAINER (2)
30. REDUCER BUSHING (2)
31. DRAIN COCK (2)
32. HI-FLOW HOSE
33. LO-FLOW HOSE
34. AIR LINE
35. PRESSURE REGULATOR
36. PRESSURE GAUGE
37. 90° STREET ELBOW
38. REDUCER BUSHING (2)
39. PIPE CROSS
40. CLOSE NIPPLE (2)
41. REDUCER BUSHING (2)
42. PIPE NIPPLE
43. PIPE NIPPLE
44. PIPE NIPPLE
45. LO-FLOW TANK
46. SIGHT GLASS (2)
47. GATE VALVE (2)
48. TEE

TA 076260

ADMIX SYSTEMS.

6-15. LIQUID ADMIX TANKS MAINTENANCE (HI-FLOW).

THIS TASK COVERS: (APPROXIMATE TIME REQUIRED FOLLOWS TASK DESCRIPTION.)

a. Removal.	(15)
b. Repair.	(20)
c. Installation.	(15)
d. Checking for Leaks.	(5)
	55 Minutes Total.

INITIAL SETUP

EQUIPMENT CONDITION PARAGRAPH	CONDITION DESCRIPTION
TM 5-3895-372-10.	Liquid Admix Systems Drained and Flushed.
6-9A.	Sight Gage Removed.

APPLICABLE CONFIGURATIONS

M919.

TEST EQUIPMENT

None.

SPECIAL TOOLS

None.

MATERIALS/PARTS (P/N)

Liquid Teflon (Refer to Appendix C).

PERSONNEL REQUIRED

One (MOS-62B20).

REFERENCES (TM)

TM 5-3895-372-10.
TM 5-3895-372-20P.
TM 9-2320-273-10.

TROUBLESHOOTING REFERENCES

Table 6-1.

SPECIAL ENVIRONMENTAL CONDITIONS

Vehicle Parked on Level Ground.

GENERAL SAFETY INSTRUCTIONS

Engine Off.
Transmission in Neutral.
Parking Brake Set.

6-15. LIQUID ADMIX TANKS MAINTENANCE (HI-FLOW) (Continued).

A. REMOVAL.

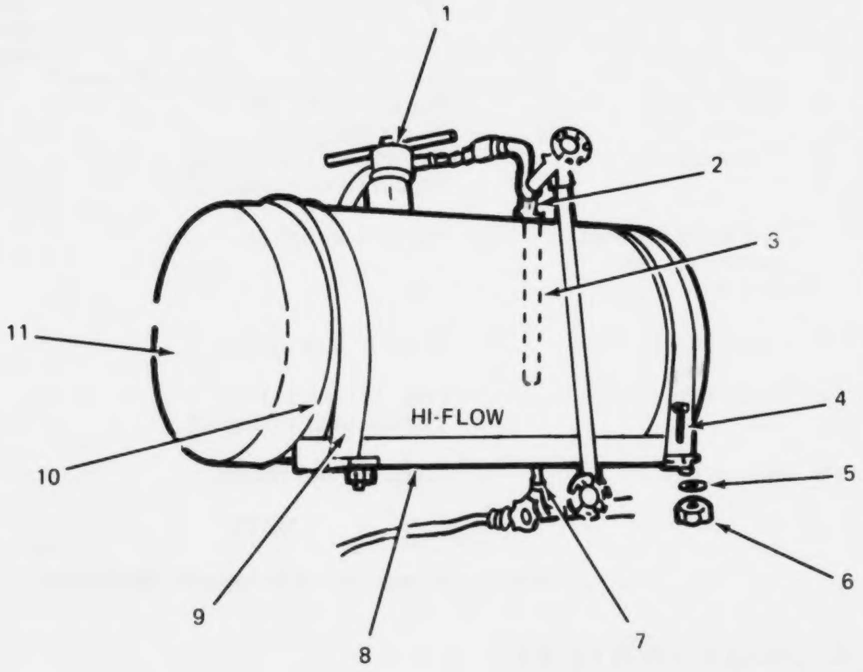
NOTE

Close main air valve at filter. Be sure the system is drained and air pressure bled before you start.

LOCATION/ITEM	ACTION	REMARKS
1. Fill cap (1).	Unscrew and remove.	
2. Inlet fitting (2).	Unscrew. Lift down tube (3) from tank.	
3. Outlet fitting (7).	Unscrew. Push piping out of way.	

LEGEND:

1. FILL CAP
2. INLET FITTING
3. DOWN TUBE
4. BOLT (4)
5. LOCKWASHER (4)
6. NUT (4)
7. OUTLET FITTING
8. CRADLE
9. STRAP (2)
10. BELT (2)
11. TANK



TA 076261

ADMIX SYSTEMS.

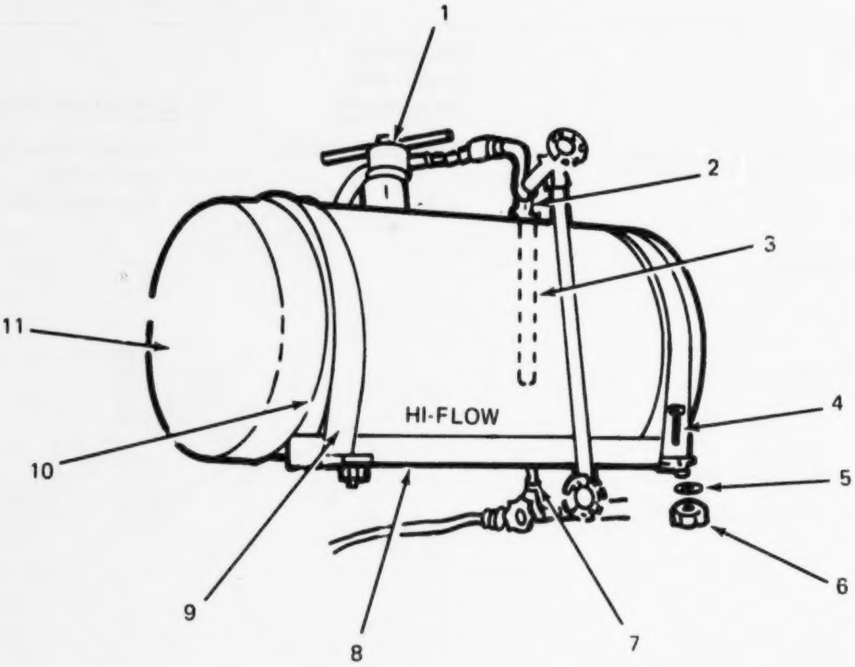
6-15. LIQUID ADMIX TANKS MAINTENANCE (HI-FLOW) (Continued).

LOCATION/ITEM	ACTION	REMARKS
A. REMOVAL (Continued).		
4. Two bolts (4), lock washers (5) and nuts (6).	Unscrew and remove. Move two straps (9) aside.	
5. Tank (11).	Remove.	
6. Two belts (10).	Remove.	
B. REPAIR.		
7. Tank (11).	Weld any cracks using standard practices for welding of galvanized steel.	See also TM 9-237, Welding Theory and Application.
C. INSTALLATION.		
	NOTE Use liquid teflon on all threaded joints at assembly.	
8. Two belts (10).	Put around tank (11).	Place belts so that they will lie under straps (9) when tank is mounted.
9. Tank (11).	Place in cradle (8).	
10. Two straps (9).	Put around tank. Straps should lie over belts (10).	
11. Two bolts (4), lock-washers (5), and nuts (6).	Put on and tighten.	
12. Outlet fitting (7).	Screw in and tighten.	
13. Down tube (3).	Place in tank (11). Tighten inlet fitting (2).	
14. Fill cap (1).	Screw on and tighten.	
	NOTE Install sight gage (para 6-9) before checking for leaks.	
D. CHECKING FOR LEAKS.		
15. Tank (11).	a. Fill. b. Pressurize (see TM 5-3895-372-10). c. Check for air or liquid leaks.	

ADMIX SYSTEMS.

6-15. LIQUID ADMIX TANKS MAINTENANCE (HI-FLOW) (Continued).

LOCATION/ITEM	ACTION	REMARKS



LEGEND:

1. FILL CAP
2. INLET FITTING
3. DOWN TUBE
4. BOLT (4)
5. LOCKWASHER (4)
6. NUT (4)
7. OUTLET FITTING
8. CRADLE
9. STRAP (2)
10. BELT (2)
11. TANK

TA 076262

ADMIX SYSTEMS.

6-16. LIQUID ADMIX TANK MAINTENANCE (LOW-FLOW).

THIS TASK COVERS: (APPROXIMATE TIME REQUIRED FOLLOWS TASK DESCRIPTION.)

a. Removal.	(15)
b. Repair.	(15)
c. Installation.	(20)
d. Checking for Leaks.	(5)
	55 Minutes Total.

INITIAL SETUP

APPLICABLE CONFIGURATIONS

M919.

TEST EQUIPMENT

None.

SPECIAL TOOLS

None.

MATERIALS/PARTS (P/N)

Liquid Teflon (See Appendix C).

EQUIPMENT CONDITION PARAGRAPH	CONDITION DESCRIPTION
TM 5-3895-372-10.	Liquid Admix Systems Drained and Flushed.
6-9A.	Sight Gage Removed.

PERSONNEL REQUIRED

One (MOS-62B20).

REFERENCES (TM)

TM 5-3895-372-10.
TM 5-3895-372-20P.
TM 9-2320-273-10.

TROUBLESHOOTING REFERENCES

Table 6-1.

SPECIAL ENVIRONMENTAL CONDITIONS

Vehicle Parked on Level Ground.

GENERAL SAFETY INSTRUCTIONS

Engine Off.
Transmission in Neutral.
Parking Brake Set.

ADMIX SYSTEMS.

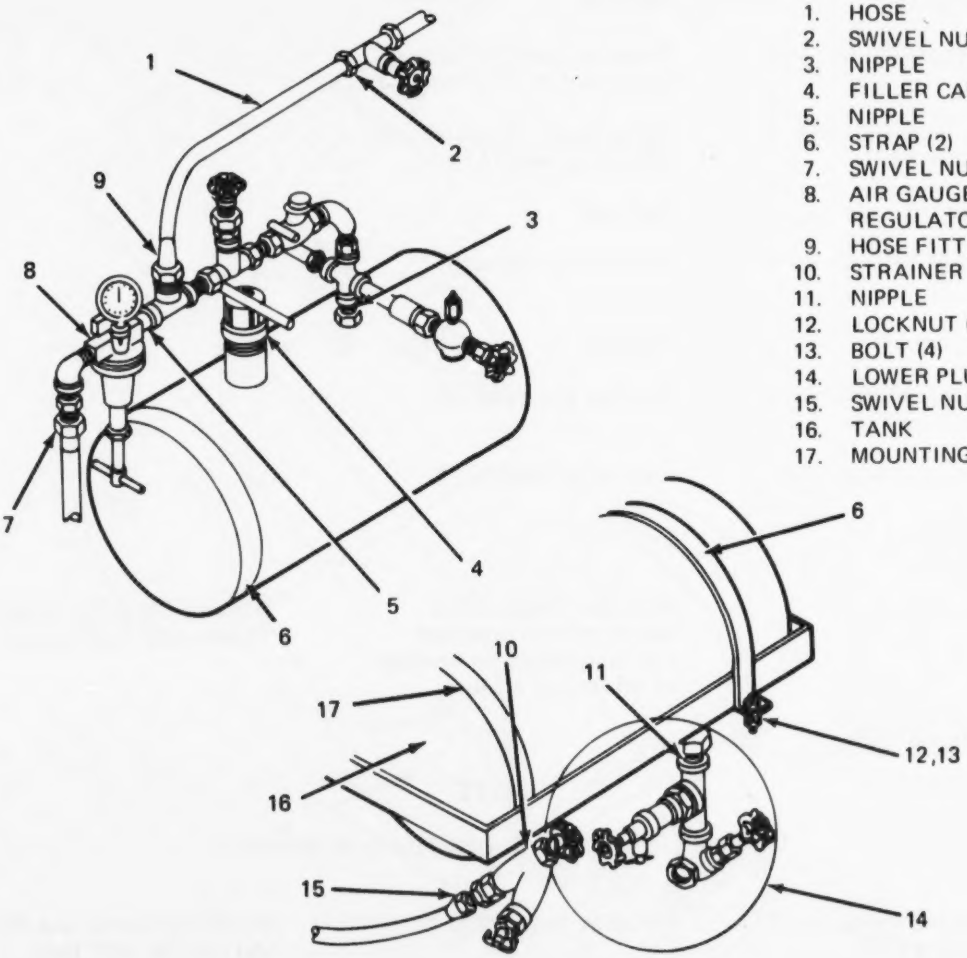
6-16. LIQUID ADMIX TANK MAINTENANCE (LOW-FLOW) (Continued).

LOCATION/ITEM	ACTION	REMARKS

A. REMOVAL.

NOTE

Close main air valve at filter. Be sure the system is drained and air pressure bled before beginning service.



LEGEND:

1. HOSE
2. SWIVEL NUT
3. NIPPLE
4. FILLER CAP
5. NIPPLE
6. STRAP (2)
7. SWIVEL NUT
8. AIR GAUGE & REGULATOR
9. HOSE FITTING
10. STRAINER
11. NIPPLE
12. LOCKNUT (4)
13. BOLT (4)
14. LOWER PLUMBING
15. SWIVEL NUT
16. TANK
17. MOUNTING PADS

TA 076263

ADMIX SYSTEMS.

6-16. LIQUID ADMIX TANK MAINTENANCE (LOW-FLOW) (Continued).

LOCATION/ITEM	ACTION	REMARKS
A. REMOVAL (Continued).		
1. Swivel nut (2).	Disconnect.	
2. Hose fitting (9).	Remove. Remove hose (1) from vehicle.	
3. Swivel nut (7).	Disconnect.	
4. Swivel nut (15).	Disconnect.	
5. Strainer (10).	Remove.	
6. Lower plumbing (14).	Revolve counterclockwise until parallel with tank.	
7. Four bolts (13) and locknuts (12).	Remove two straps (6) and mounting pads (17).	
8. Tank (16).	Remove.	
9. Air gage and regulator (8).	Remove at nipple (5).	
10. Filler cap (4).	Remove.	
11. Air valve and plumbing components.	Remove at nipple (3).	
12. Lower plumbing (14).	Remove at nipple (11).	
B. REPAIR.		
13. Tank (16).	Weld any cracks using standard shop practices and techniques for welding of galvanized steel.	See also TM 9-237, Welding Theory and Application.
C. INSTALLATION.		

NOTE

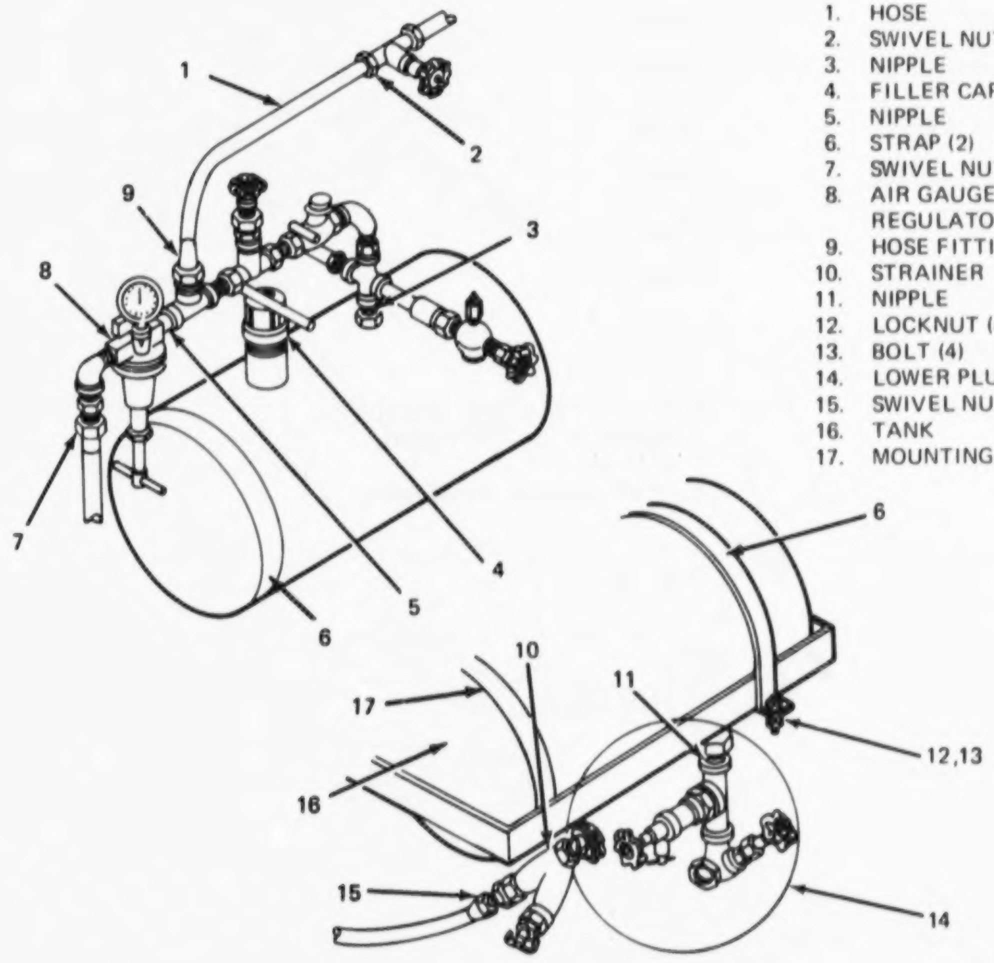
Use liquid teflon on all threaded joints at assembly.

LOCATION/ITEM	ACTION	REMARKS
14. Valve and lower plumbing (14).	Install at nipple (11).	Plumbing should face the rear and parallel with tank.

6-16. LIQUID ADMIX TANK MAINTENANCE (LOW-FLOW) (Continued).

C. INSTALLATION (Continued).

LOCATION/ITEM	ACTION	REMARKS
15. Air valve and plumbing components.	Install at nipple (3).	
16. Filler cap (4).	Install.	
17. Air gage and regulator (8).	Install at nipple (5).	



LEGEND:

1. HOSE
2. SWIVEL NUT
3. NIPPLE
4. FILLER CAP
5. NIPPLE
6. STRAP (2)
7. SWIVEL NUT
8. AIR GAUGE & REGULATOR
9. HOSE FITTING
10. STRAINER
11. NIPPLE
12. LOCKNUT (4)
13. BOLT (4)
14. LOWER PLUMBING
15. SWIVEL NUT
16. TANK
17. MOUNTING PADS

TA 076264

ADMIX SYSTEMS.

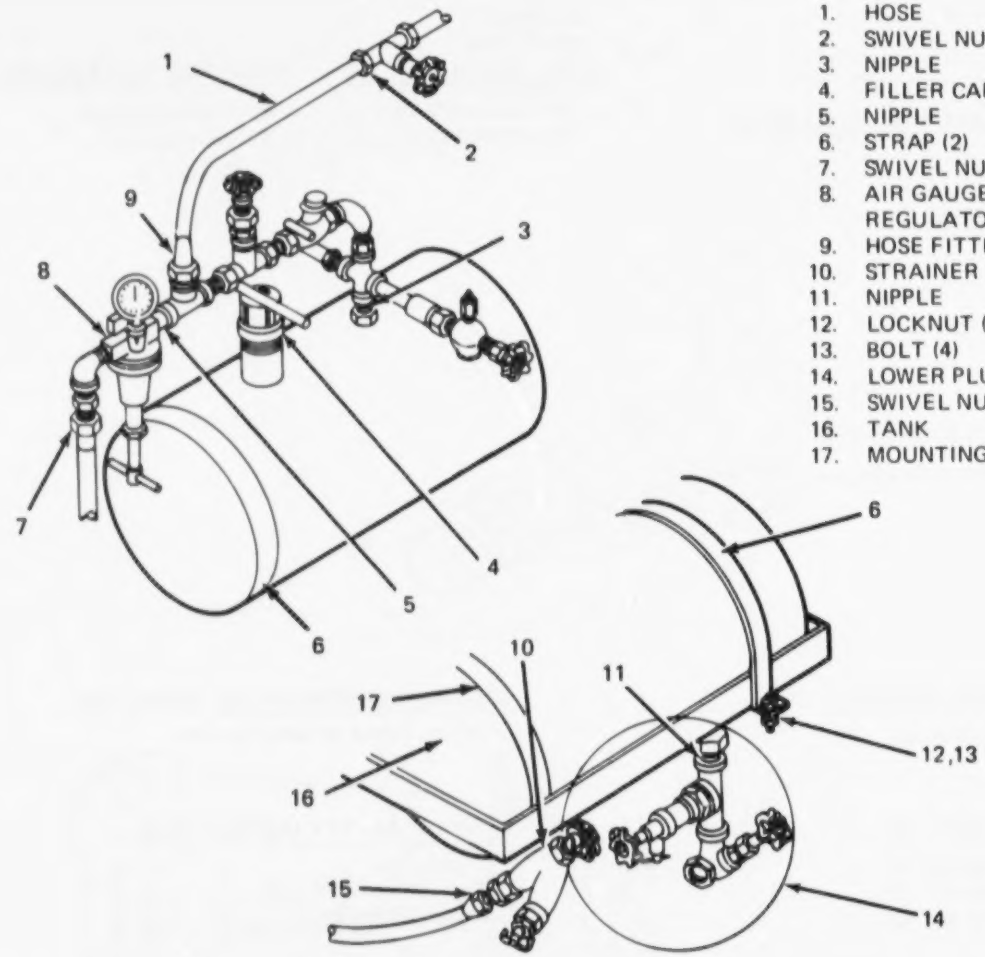
6-16. LIQUID ADMIX TANK MAINTENANCE (LOW-FLOW) (Continued).

LOCATION/ITEM	ACTION	REMARKS
C. INSTALLATION (Continued).		
18. Mounting pads (17) and straps (6).	Position on tank.	
19. Tank (16).	Install in vehicle.	
20. Four bolts (13) and locknuts (12).	Install and tighten.	
21. Lower plumbing (14).	Revolve clockwise until valves are accessible and tight.	
22. Strainer (10).	Install.	
23. Swivel nut (15).	Install.	
24. Swivel nut (7).	Install.	
25. Hose fitting (9).	Install.	
26. Swivel nut (2).	Install.	
27. Sight gage.	Install.	Refer to para 6-9.
D. CHECKING FOR LEAKS.		
28. Tank (16).	a. Fill (see TM 5-3895-372-10). b. Pressurize (see TM 5-3895-372-10). c. Check for air or liquid leaks.	

ADMIX SYSTEMS.

6-16. LIQUID ADMIX TANK MAINTENANCE (LOW-FLOW) (Continued).

LOCATION/ITEM	ACTION	REMARKS



LEGEND:

1. HOSE
2. SWIVEL NUT
3. NIPPLE
4. FILLER CAP
5. NIPPLE
6. STRAP (2)
7. SWIVEL NUT
8. AIR GAUGE & REGULATOR
9. HOSE FITTING
10. STRAINER
11. NIPPLE
12. LOCKNUT (4)
13. BOLT (4)
14. LOWER PLUMBING
15. SWIVEL NUT
16. TANK
17. MOUNTING PADS

TA 076265

ADMIX SYSTEMS.

6-17. AIR RELIEF VALVE MAINTENANCE AND ADJUSTMENT.

THIS TASK COVERS: (APPROXIMATE TIME REQUIRED FOLLOWS TASK DESCRIPTION.)

a. Removal.	(5)
b. Disassembly.	(10)
c. Inspection.	(5)
d. Assembly.	(10)
e. Installation.	(5)
f. Adjustment.	(10)
	45 Minutes Total.

INITIAL SETUP

APPLICABLE CONFIGURATIONS

M919.

TEST EQUIPMENT

None.

SPECIAL TOOLS

None.

MATERIALS/PARTS (P/N)

Liquid Teflon (See Appendix C).

EQUIPMENT CONDITION PARAGRAPH	CONDITION DESCRIPTION
TM 9-2320-273-10.	Air Pressure Drained.
TM 5-3895-372-10.	Air Valve Shut Off.

PERSONNEL REQUIRED

One (MOS-62B20).

REFERENCES (TM)

TM 5-3895-372-10.
TM 5-3895-372-20P.
TM 9-2320-273-10.

TROUBLESHOOTING REFERENCES

Table 6-1.

SPECIAL ENVIRONMENTAL CONDITIONS

Vehicle Parked on Level Ground.

GENERAL SAFETY INSTRUCTIONS

Engine Off.
Transmission in Neutral.
Parking Brake Set.

ADMIX SYSTEMS.

6-17. AIR RELIEF VALVE MAINTENANCE AND ADJUSTMENT (Continued).

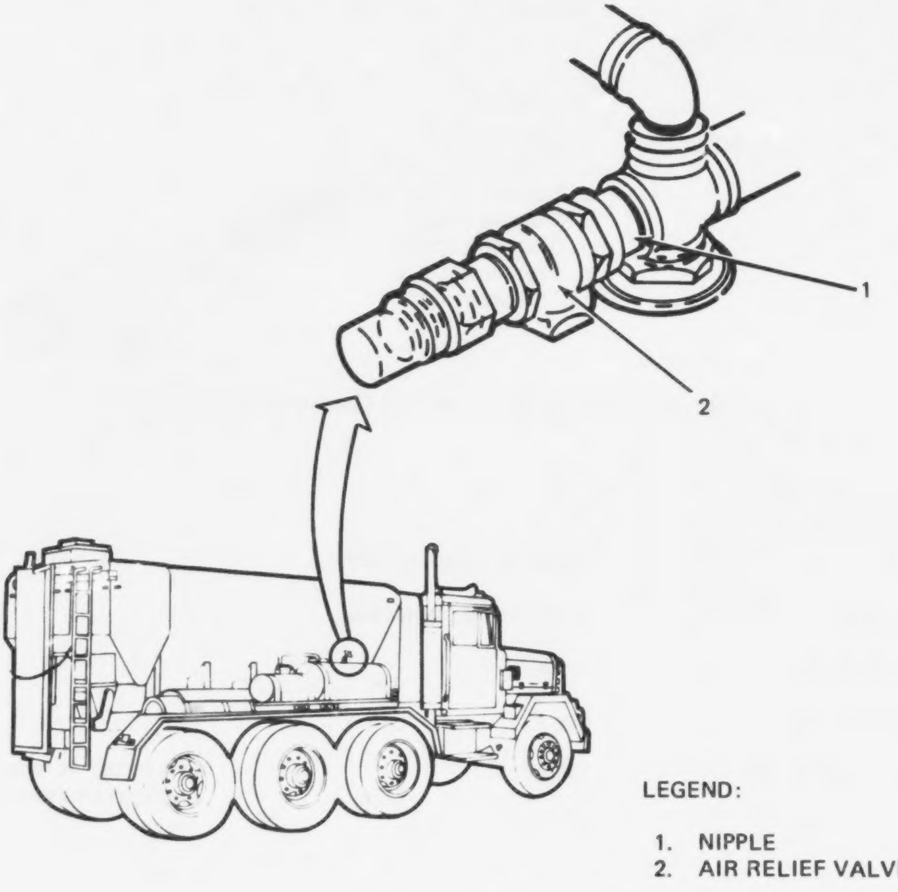
LOCATION/ITEM	ACTION	REMARKS

A. REMOVAL.

NOTE

The following procedure may be used for both liquid admix tank air relief valves. Make certain that the air shutoff valve is closed and pressure is drained from liquid admix tanks before proceeding.

1. Air relief valve (2).	Remove from nipple (1).	Place in vise.



LEGEND:

1. NIPPLE
2. AIR RELIEF VALVE

TA 076266

ADMIX SYSTEMS.

6-17. AIR RELIEF VALVE MAINTENANCE AND ADJUSTMENT (Continued).

LOCATION/ITEM	ACTION	REMARKS
B. DISASSEMBLY.		
2. Acorn cap (3).	Remove.	
3. Jam nut (5).	Loosen.	
4. Adjusting screw (4).	Remove.	Coat threads and note for installation.
5. Relief body (6).	Remove.	
6. Spring seat (7).	Remove.	
7. Spring (8).	Remove.	
8. Ball (9).	Remove.	
C. INSPECTION.		
9. Relief valve components.	Inspect for: a. Cracks. b. Breaks. c. Clogged inlet. d. Clogged outlet. e. Sediment. f. Corrosion.	

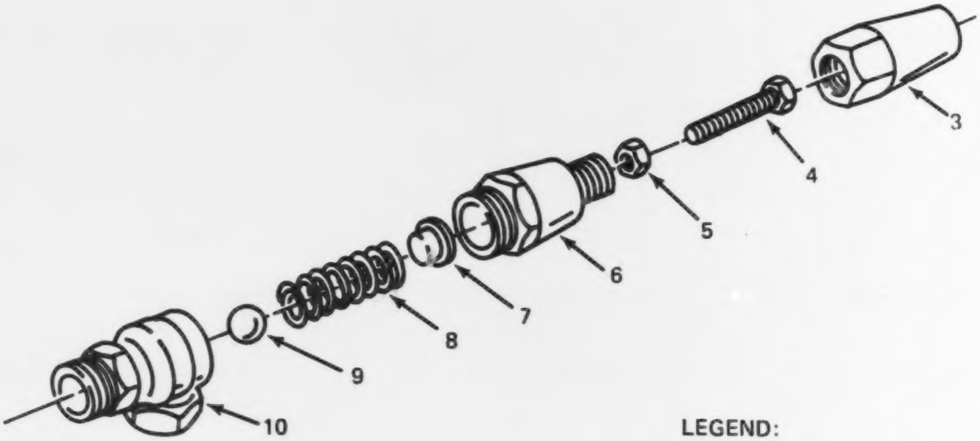
NOTE

Replace relief valve if defective components are found.

LOCATION/ITEM	ACTION	REMARKS
D. ASSEMBLY.		
10. Ball (9).	Install in housing (10).	
11. Spring (8).	Install in housing (10).	
12. Spring seat (7).	Install.	
13. Relief body (6).	Install.	
14. Adjusting screw (4).	Install.	As noted at removal. Do not tighten jam nut (5).

6-17. AIR RELIEF VALVE MAINTENANCE AND ADJUSTMENT (Continued).

LOCATION/ITEM	ACTION	REMARKS



LEGEND:

3. ACORN CAP
4. ADJUSTING SCREW
5. JAM NUT
6. RELIEF BODY
7. SPRING SEAT
8. SPRING
9. BALL
10. HOUSING

TA 076267

ADMIX SYSTEMS.

6-17. RELIEF VALVE MAINTENANCE AND ADJUSTMENT (Continued).

LOCATION/ITEM	ACTION	REMARKS
E. INSTALLATION.		
15. Relief valve (2).	Install on nipple (1).	Coat threads with liquid teflon.

F. ADJUSTMENT.

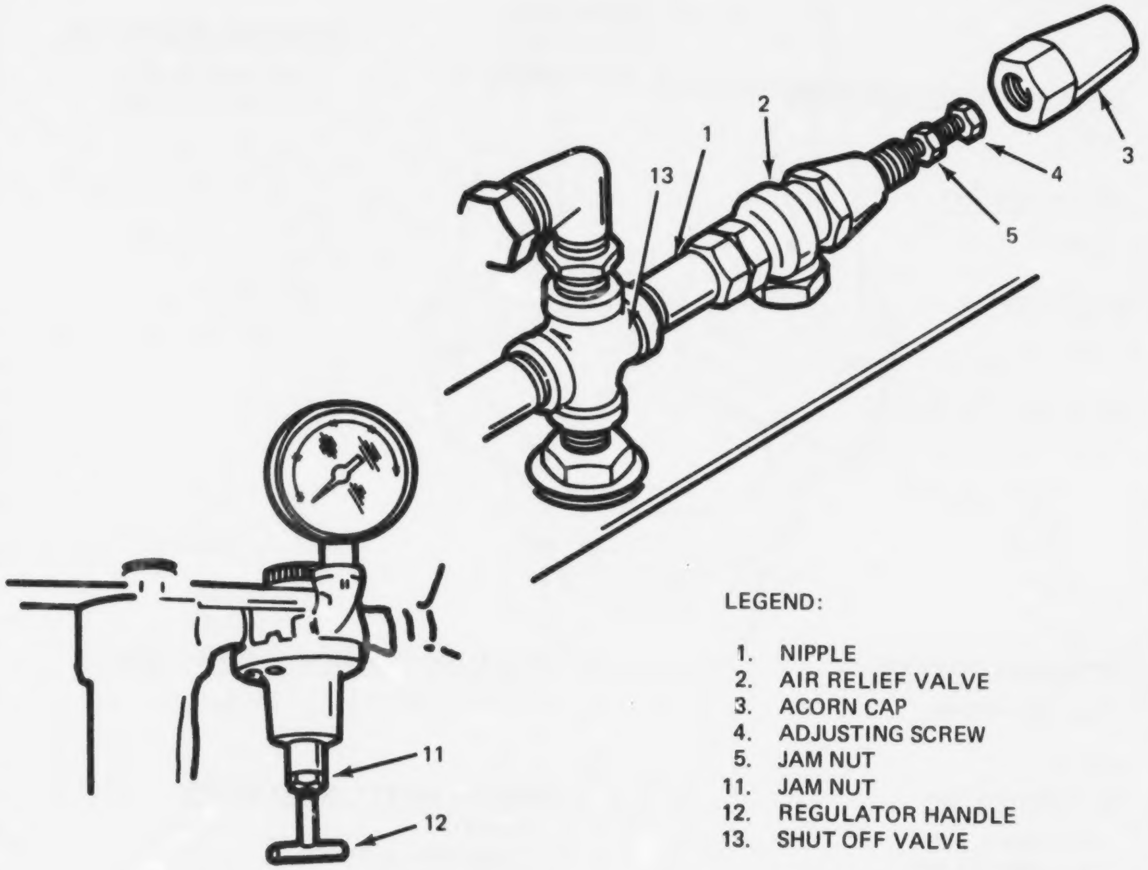
NOTE

The following adjustment procedure pertains to both relief valves. Each valve must be adjusted individually with the other system shut-off valve closed.

16. Mixer body.	Start-up (see TM 5-3895-372-10 and TM 9-2320-273-10).	Allow vehicle to reach operating pressure.
17. Air shutoff valve (13).	Open.	
18. Acorn cap (3).	Remove.	If not removed in disassembly procedure.
19. Jam nut (11).	Loosen.	
20. Regulator handle (12).	Turn until gage reads 18-20 psi (124-138 kPa).	
21. Jam nut (5).	Loosen.	If not loosened in disassembly procedure.
22. Adjusting screw (4).	Turn until valve begins to vent.	Turn in to increase pressure. Turn out to decrease pressure.
23. Jam nut (5).	Tighten securely.	
24. Regulator handle (12).	Turn until gage reads 14½ - 15½ psi (100-107 kPa).	Relief valve should stop venting when pressure drops below 18-20 psi (124-138 kPa).
25. Jam nut (11).	Tighten securely.	
26. Acorn cap (3).	Install and tighten securely.	
27. Mixer body.	Shut-down (see TM 9-2320-273-10 and TM 5-3895-372-10).	

6-17. RELIEF VALVE MAINTENANCE AND ADJUSTMENT (Continued).

LOCATION/ITEM	ACTION	REMARKS



LEGEND:

1. NIPPLE
2. AIR RELIEF VALVE
3. ACORN CAP
4. ADJUSTING SCREW
5. JAM NUT
11. JAM NUT
12. REGULATOR HANDLE
13. SHUT OFF VALVE

TA 076268

ADMIX SYSTEMS.

6-18. ADMIX INJECTOR MAINTENANCE.

THIS TASK COVERS: (APPROXIMATE TIME REQUIRED FOLLOWS TASK DESCRIPTION.)

a. Removal.	(5)
b. Installation.	(5)
c. Operational Check.	(5)
	15 Minutes Total.

INITIAL SETUP

EQUIPMENT CONDITION PARAGRAPH	CONDITION DESCRIPTION
TM 5-3895-372-10.	Liquid Admix System Filled and Pressurized.

APPLICABLE CONFIGURATIONS

M919.

TEST EQUIPMENT

None.

SPECIAL TOOLS

None.

MATERIALS/PARTS (P/N)

Liquid Teflon (See Appendix C).

PERSONNEL REQUIRED

One (MOS-62B20).

REFERENCES (TM)

TM 5-3895-372-10.
TM 5-3895-372-20P.
TM 9-2320-273-10.

TROUBLESHOOTING REFERENCES

Table 6-1.

SPECIAL ENVIRONMENTAL CONDITIONS

Vehicle Parked on Level Ground.

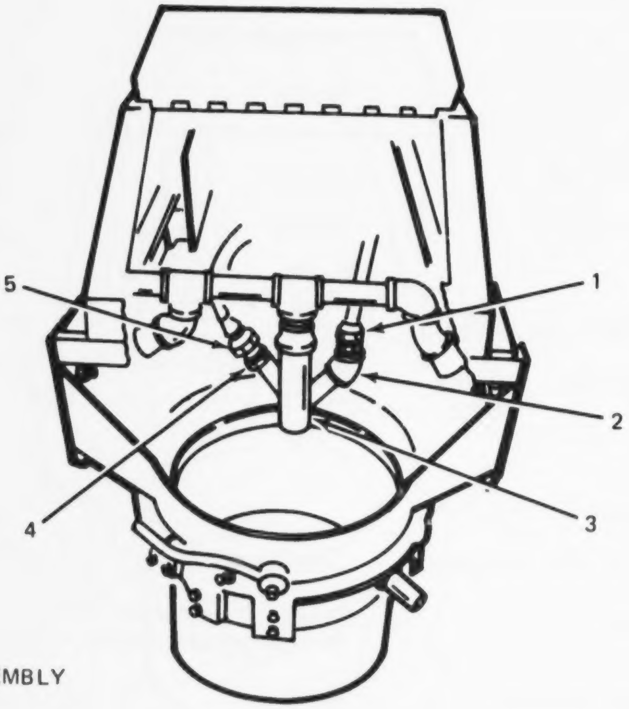
GENERAL SAFETY INSTRUCTIONS

Engine Off.
Transmission in Neutral.
Parking Brake Set.

ADMIX SYSTEMS.

6-18. ADMIX INJECTOR MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS



LEGEND:

1. SWIVEL NUT
2. 45° ELBOW
3. INJECTOR ASSEMBLY
4. ADAPTER
5. SWIVEL NUT

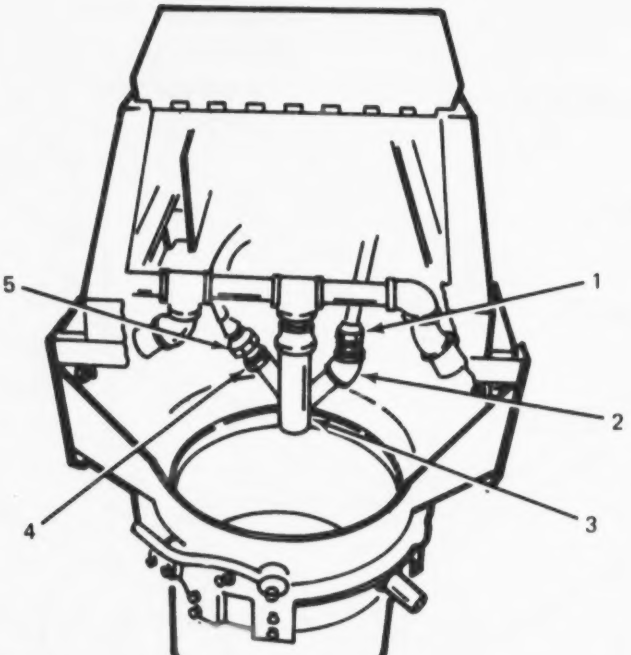
TA 076269

6-18. ADMIX INJECTOR MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS
A. REMOVAL.		
1. Swivel nut (1).	Remove.	
2. Swivel nut (5).	Remove.	
3. Injector assembly (3).	Remove.	
4. Adapter (4).	Remove.	
5. 45° elbow (2).	Remove.	
B. INSTALLATION.		
6. 45° elbow (2).	Install.	Coat threads with liquid teflon.
7. Adapter (4).	Install.	Coat threads with liquid teflon.
8. Injector assembly (3).	Install.	Coat with liquid teflon.
9. Swivel nut (5).	Install.	
10. Swivel nut (1).	Install.	
C. OPERATIONAL CHECK.		
11. Air and solution gate valves.	Open.	
12. Flowmeters.	Set to 5.8 gallons per minute approximately.	
13. Quick opening valve.	Open. a. Check for leaks at hose joints. b. Check that admix solution flows freely.	

6-18. ADMIX INJECTOR MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS



LEGEND:

1. SWIVEL NUT
2. 45° ELBOW
3. INJECTOR ASSEMBLY
4. ADAPTER
5. SWIVEL NUT

TA 076270

ADMIX SYSTEMS.

6-19. DRY ADMIX BIN MAINTENANCE.

THIS TASK COVERS: (APPROXIMATE TIME REQUIRED FOLLOWS TASK DESCRIPTION.)

a. Removal.	(5)
b. Disassembly.	(30)
c. Cleaning and Inspection.	(10)
d. Assembly.	(30)
e. Installation.	(5)
f. Test.	(10)
	90 Minutes Total.

INITIAL SETUP

EQUIPMENT CONDITION PARAGRAPH	CONDITION DESCRIPTION
TM 5-3895-372-10.	Bin Empty.

APPLICABLE CONFIGURATIONS

M919.

TEST EQUIPMENT

None.

SPECIAL TOOLS

None.

MATERIALS/PARTS (P/N)

Marking Pen.
Masking Tape.

PERSONNEL REQUIRED

One (MOS-62B20).

REFERENCES (TM)

TM 5-3895-372-20P.
TM 5-3895-372-10.
TM 9-2320-273-10.

TROUBLESHOOTING REFERENCES

Table 6-1.

SPECIAL ENVIRONMENTAL CONDITIONS

Vehicle Parked on Level Ground.

GENERAL SAFETY INSTRUCTIONS

Engine Off.
Transmission in Neutral.
Parking Brake Set.

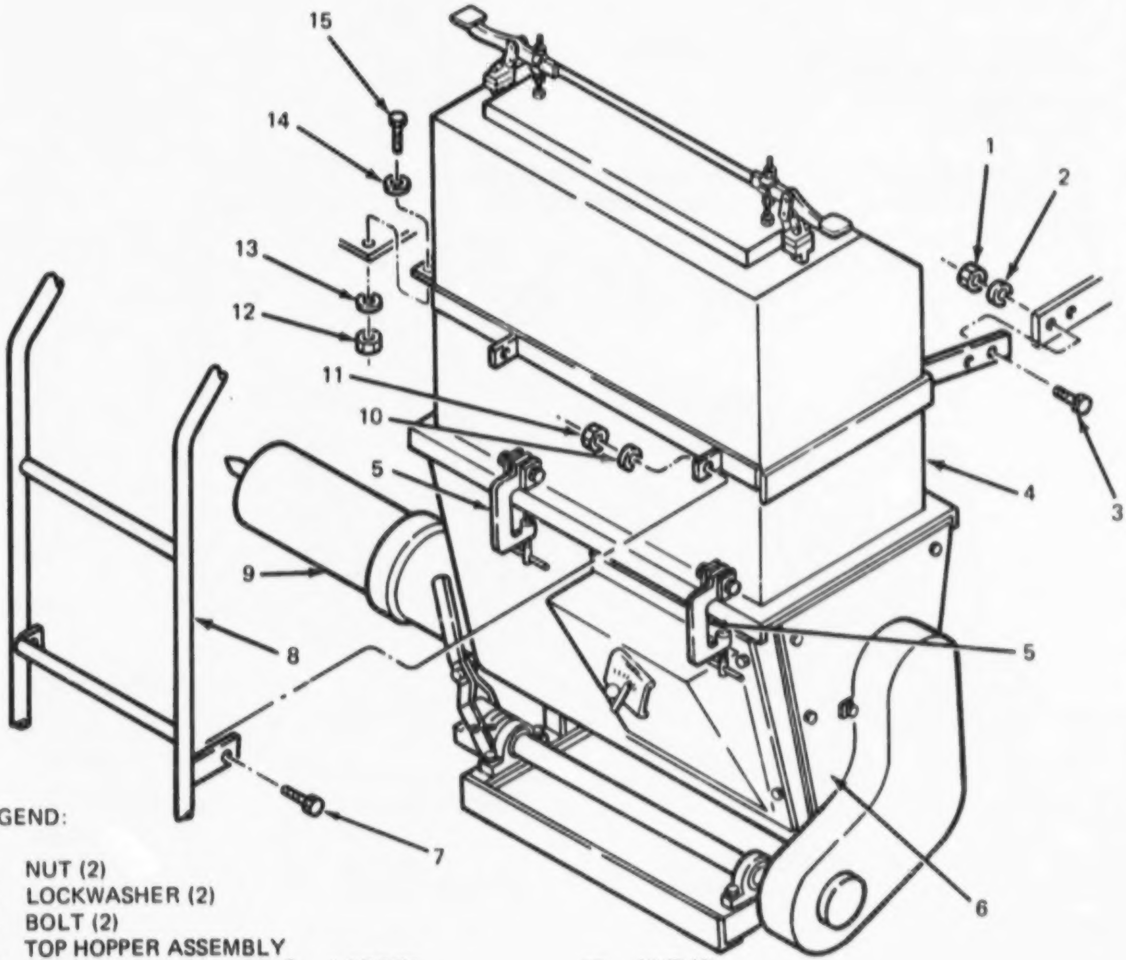
6-19. DRY ADMIX BIN MAINTENANCE (Continued).

A. REMOVAL.

NOTE

Support the dry admix bin (6) and the top hopper assembly (4) before performing the following steps.

LOCATION/ITEM	ACTION	REMARKS
1. Four C-clamps (5).	Unclamp and swing upwards out of the way.	



LEGEND:

1. NUT (2)
2. LOCKWASHER (2)
3. BOLT (2)
4. TOP HOPPER ASSEMBLY
5. C-CLAMP (4)
6. DRY ADMIX BIN ASSEMBLY
7. BOLT (2)
8. LADDER
9. AUGER COVER
10. LOCKWASHER (2)
11. NUT (2)
12. NUT (2)
13. LOCKWASHER (2)
14. FLAT WASHER (2)
15. BOLT (2)

TA 076271

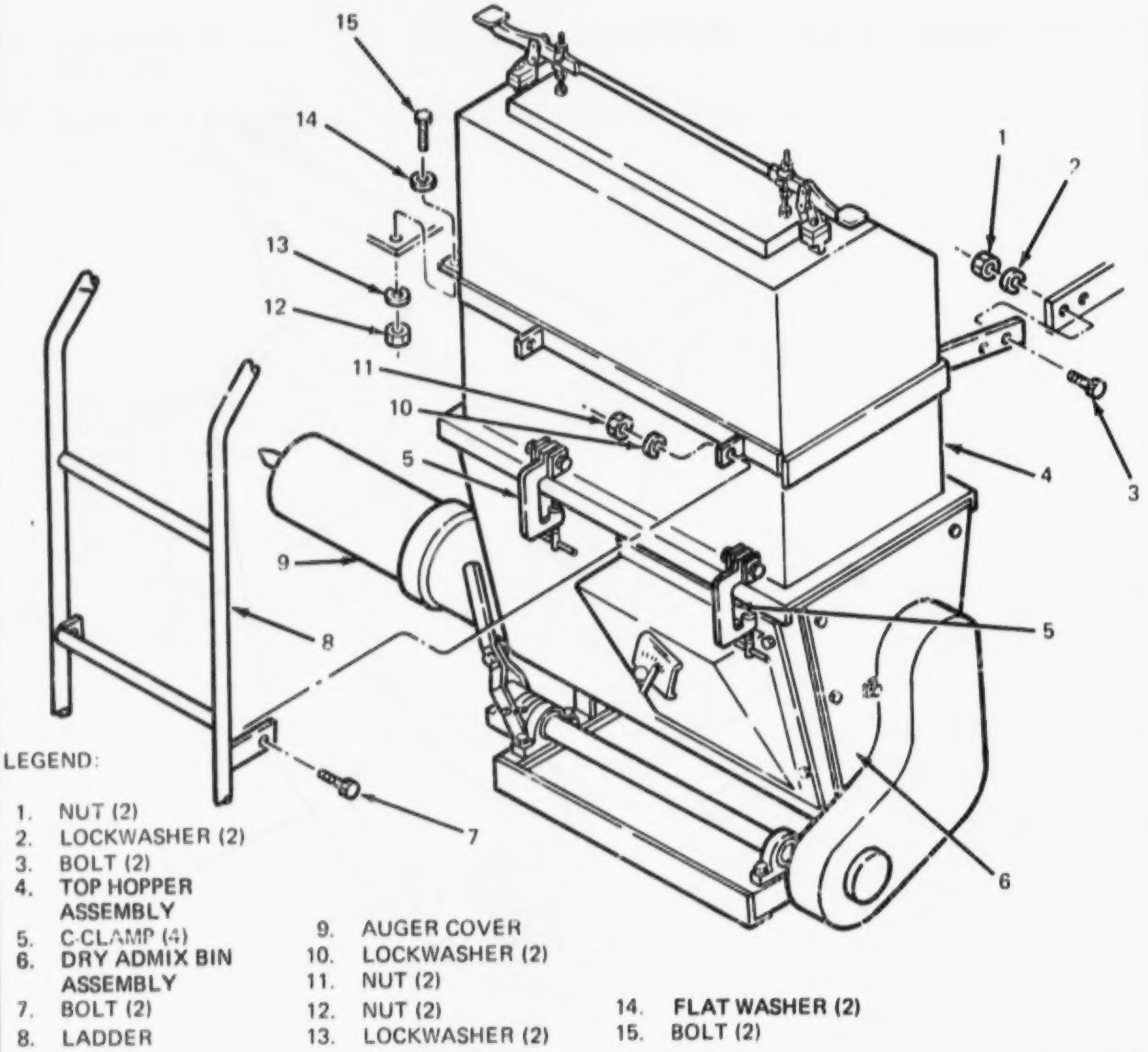
ADMIX SYSTEMS.

6-19. DRY ADMIX BIN MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS
A. REMOVAL (Continued).		
2. Dry admix bin assembly (6).	Lower slightly to unseat from top hopper assembly (4). Slide to right to disengage auger and auger cover (9) from vehicle and remove dry admix bin assembly (6).	
3. Two bolts (7), two lockwashers (10) and two nuts (11).	Remove from ladder (8).	
4. Two bolts (15), two flat washers (14), two lockwashers (13), and two nuts (12).	Remove.	
5. Two bolts (3), two lockwashers (2), and two nuts (1).	Loosen and remove top hopper assembly (4).	

6-19. DRY ADMIX BIN MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS



LEGEND:

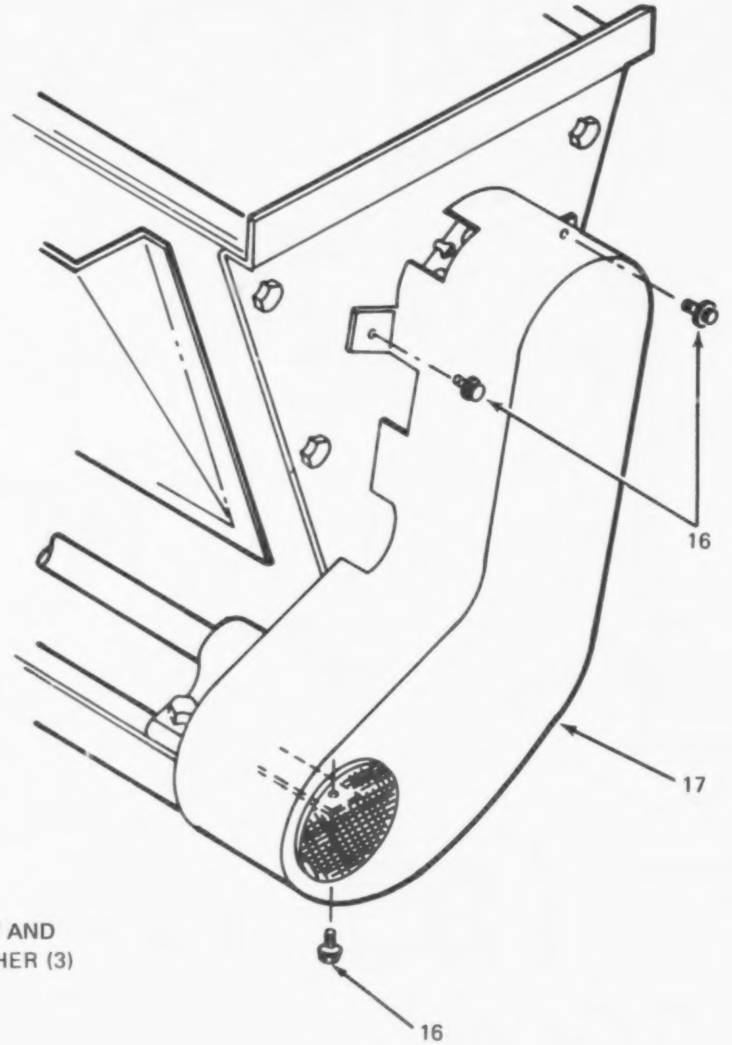
1. NUT (2)
2. LOCKWASHER (2)
3. BOLT (2)
4. TOP HOPPER ASSEMBLY
5. C-CLAMP (4)
6. DRY ADMIX BIN ASSEMBLY
7. BOLT (2)
8. LADDER
9. AUGER COVER
10. LOCKWASHER (2)
11. NUT (2)
12. NUT (2)
13. LOCKWASHER (2)
14. FLAT WASHER (2)
15. BOLT (2)

TA 076272

ADMIX SYSTEMS.

6-19. DRY ADMIX BIN MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS
B. DISASSEMBLY.		
6. Three capscrews and lockwashers (16).	Remove.	
7. Cover (17).	Remove.	



LEGEND:

16. CAPSCREW AND LOCKWASHER (3)
17. COVER

TA 076273

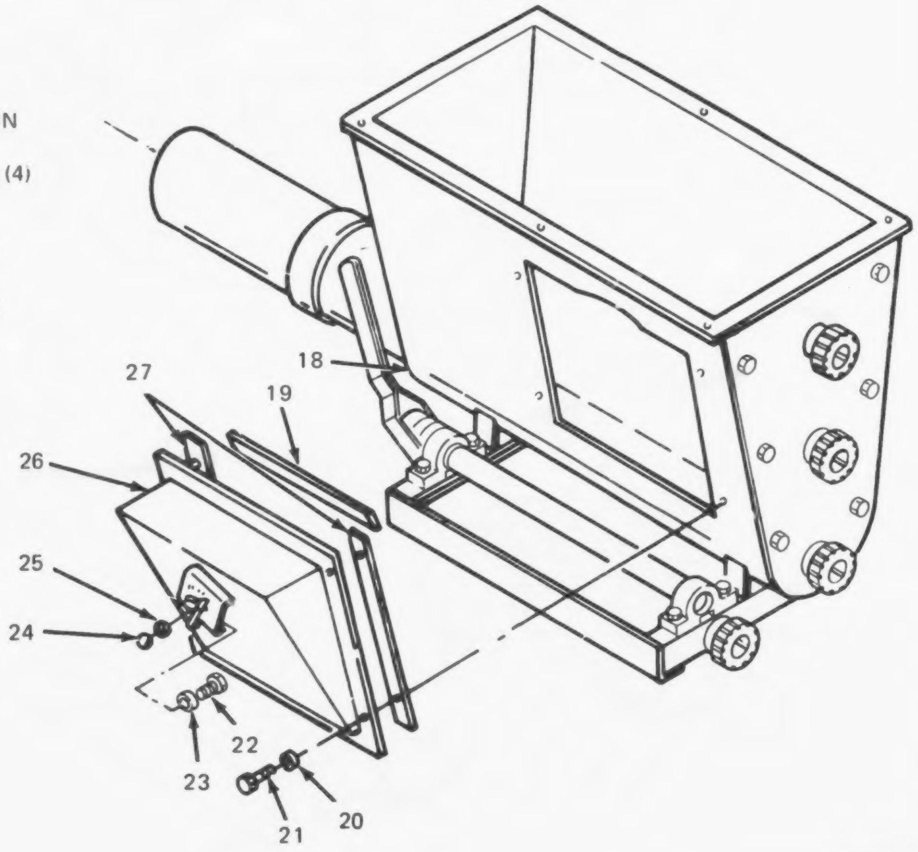
ADMIX SYSTEMS.

6-19. DRY ADMIX BIN MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS
B. DISASSEMBLY (Continued).		
8. Four screws (21) and four lockwashers (20).	Loosen and remove side cover (26) from dry admix bin (18).	
9. Two gaskets (27) and gasket (19).	Remove from side cover (26).	Replace if necessary.
10. Screw (22), lockwasher (23), flat washer (25) and knob (24).	Loosen and remove from side cover (26).	

LEGEND:

18. DRY ADMIX BIN
19. GASKET
20. LOCKWASHER (4)
21. SCREW (4)
22. SCREW
23. LOCKWASHER
24. KNOB
25. FLAT WASHER
26. SIDE COVER
27. GASKET (2)



TA 076274

ADMIX SYSTEMS.

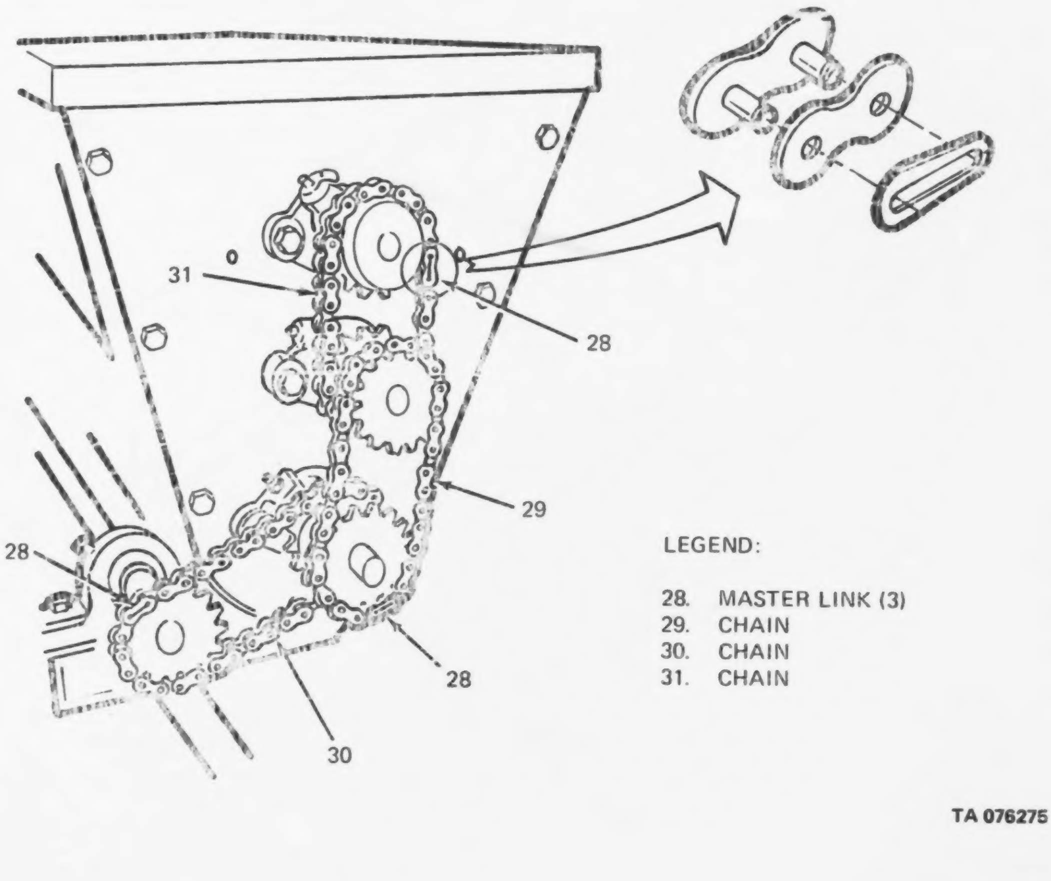
6-19. DRY ADMIX BIN MAINTENANCE (Continued).

B. DISASSEMBLY (Continued).

NOTE

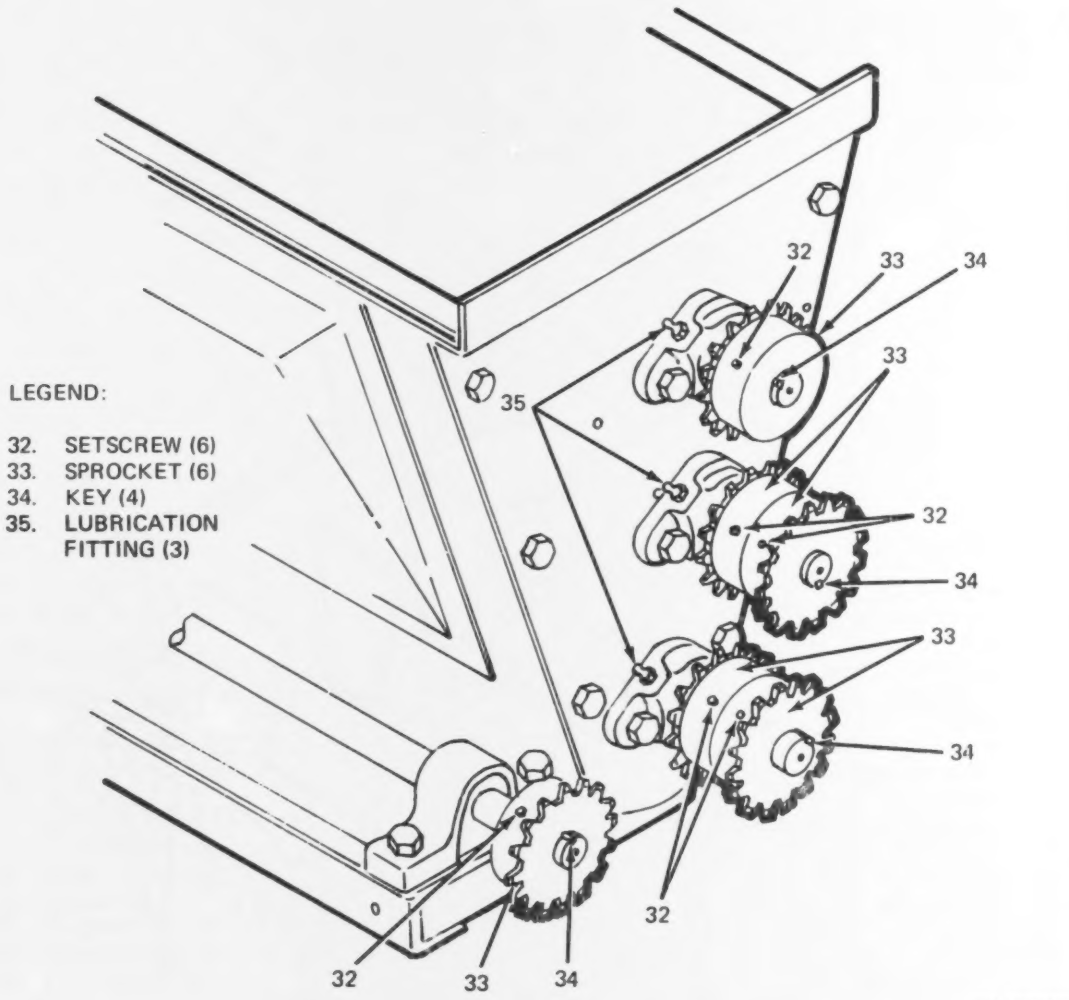
Tag chains to aid in reassembly. Chains are of different lengths.

LOCATION/ITEM	ACTION	REMARKS
11. Three master links (28).	Remove.	
12. Three chains (29, 30, and 31).	Remove.	


31
28
29
28
28
30
LEGEND:
28. MASTER LINK (3)
29. CHAIN
30. CHAIN
31. CHAIN
TA 076275

6-19. DRY ADMIX BIN MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS
B. DISASSEMBLY (Continued).		
13. Six setscrews (32).	Loosen.	
14. Six sprockets (33).	Remove.	Pry apart with a tapered tool.
15. Four keys (34).	Remove.	Mark keys for assembly.
16. Three lubrication fittings (35).	Remove.	

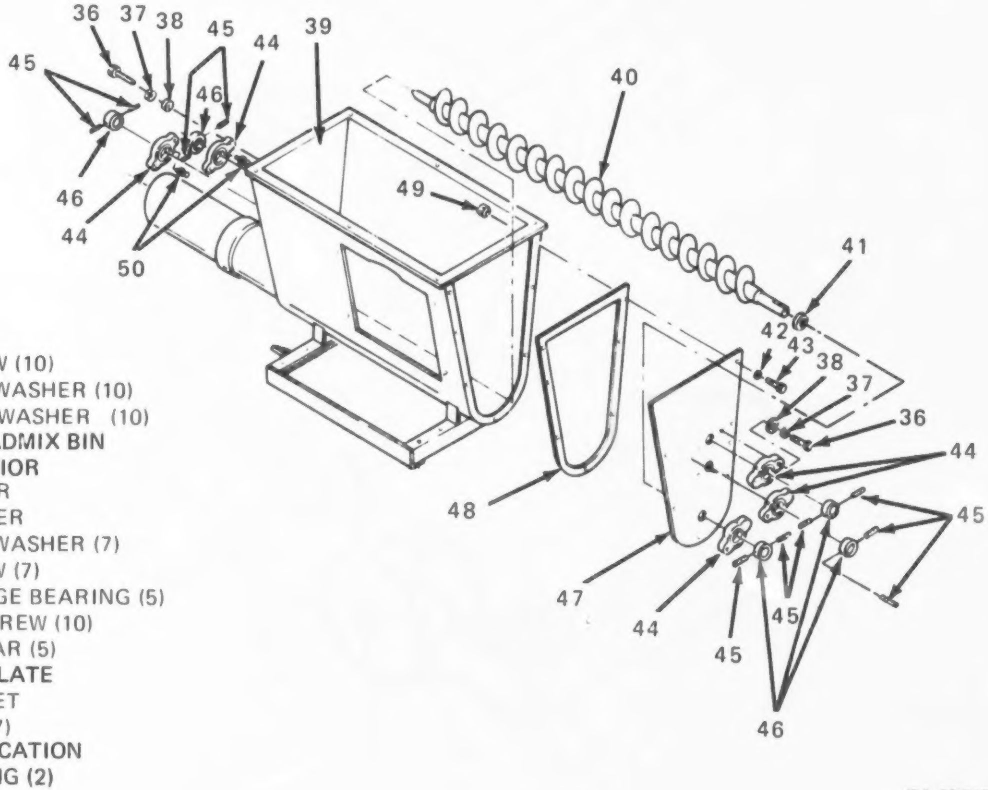

32
33
34
33
LEGEND:
32. SETSCREW (6)
33. SPROCKET (6)
34. KEY (4)
35. LUBRICATION FITTING (3)
35
32
34
33
34
32
32
33
34

TA 076276

ADMIX SYSTEMS.

6-19. DRY ADMIX BIN MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS
B. DISASSEMBLY (Continued).		
17. Ten screws (36), ten lockwashers (37), and ten flat washers (38).	Remove.	
18. Five collars (46) and ten set screws (45).	Loosen ten setscrews (45), remove five collars (46), and five flange bearings (44).	
19. Two lubrication fittings (50).	Remove.	
20. Seven screws, 43, seven lockwashers (42), and seven nuts (49).	Loosen and remove end plate (47), and gasket (48).	
21. Auger (40).	Remove from dry admix bin interior (39).	



LEGEND:

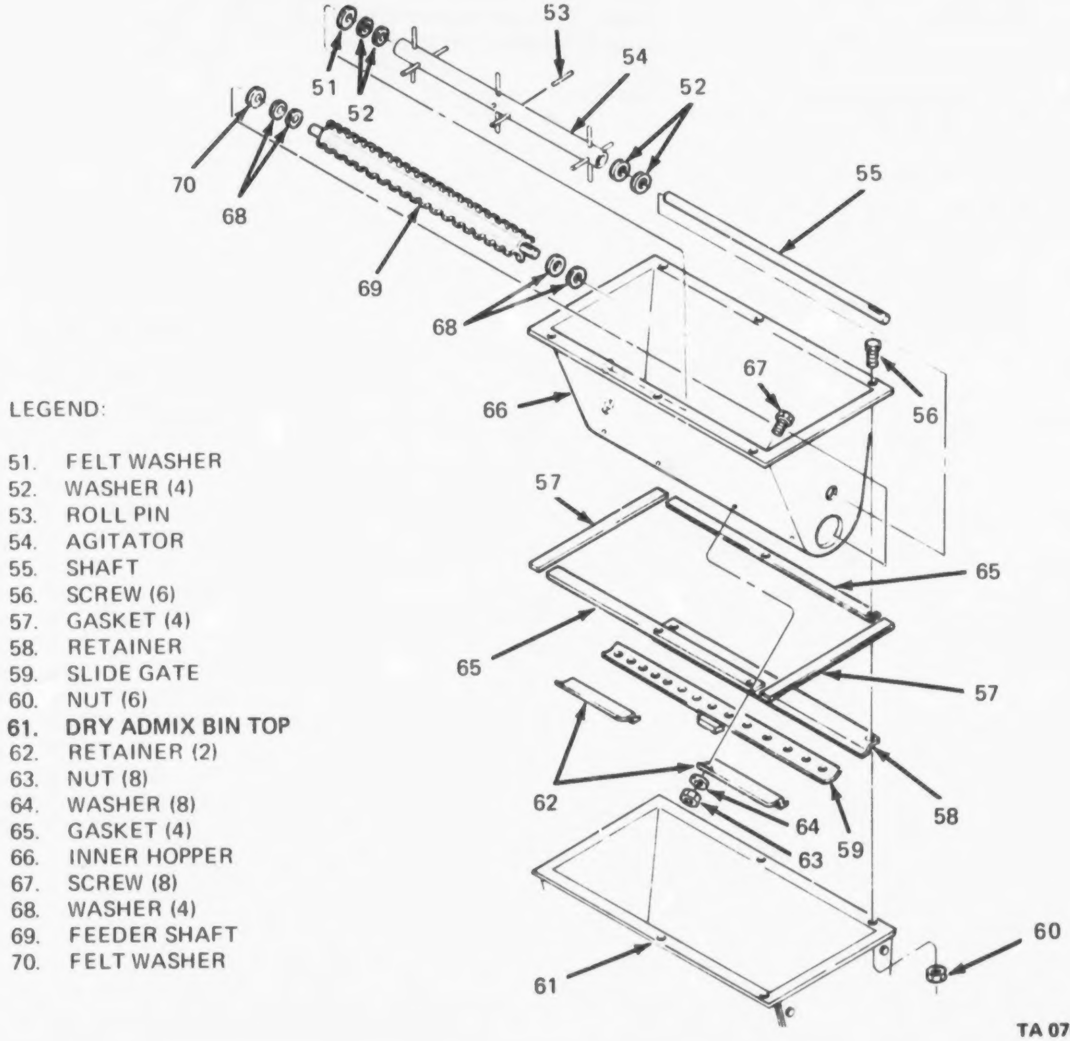
36. SCREW (10)
37. LOCKWASHER (10)
38. FLAT WASHER (10)
39. DRY ADMIX BIN INTERIOR
40. AUGER
41. WASHER
42. LOCKWASHER (7)
43. SCREW (7)
44. FLANGE BEARING (5)
45. SETSCREW (10)
46. COLLAR (5)
47. END PLATE
48. GASKET
49. NUT (7)
50. LUBRICATION FITTING (2)

TA 076277

ADMIX SYSTEMS.

6-19. DRY ADMIX BIN MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS
B. DISASSEMBLY (Continued).		
22. Roll pin (53).	Remove.	
23. Shaft (55).	Remove.	Remove from sprocket end while supporting agitator (54).
24. Agitator (54).	Remove.	Mark for right and left side.



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LEGEND:

51. FELT WASHER
52. WASHER (4)
53. ROLL PIN
54. AGITATOR
55. SHAFT
56. SCREW (6)
57. GASKET (4)
58. RETAINER
59. SLIDE GATE
60. NUT (6)
61. DRY ADMIX BIN TOP
62. RETAINER (2)
63. NUT (8)
64. WASHER (8)
65. GASKET (4)
66. INNER HOPPER
67. SCREW (8)
68. WASHER (4)
69. FEEDER SHAFT
70. FELT WASHER

TA 076278

ADMIX SYSTEMS.

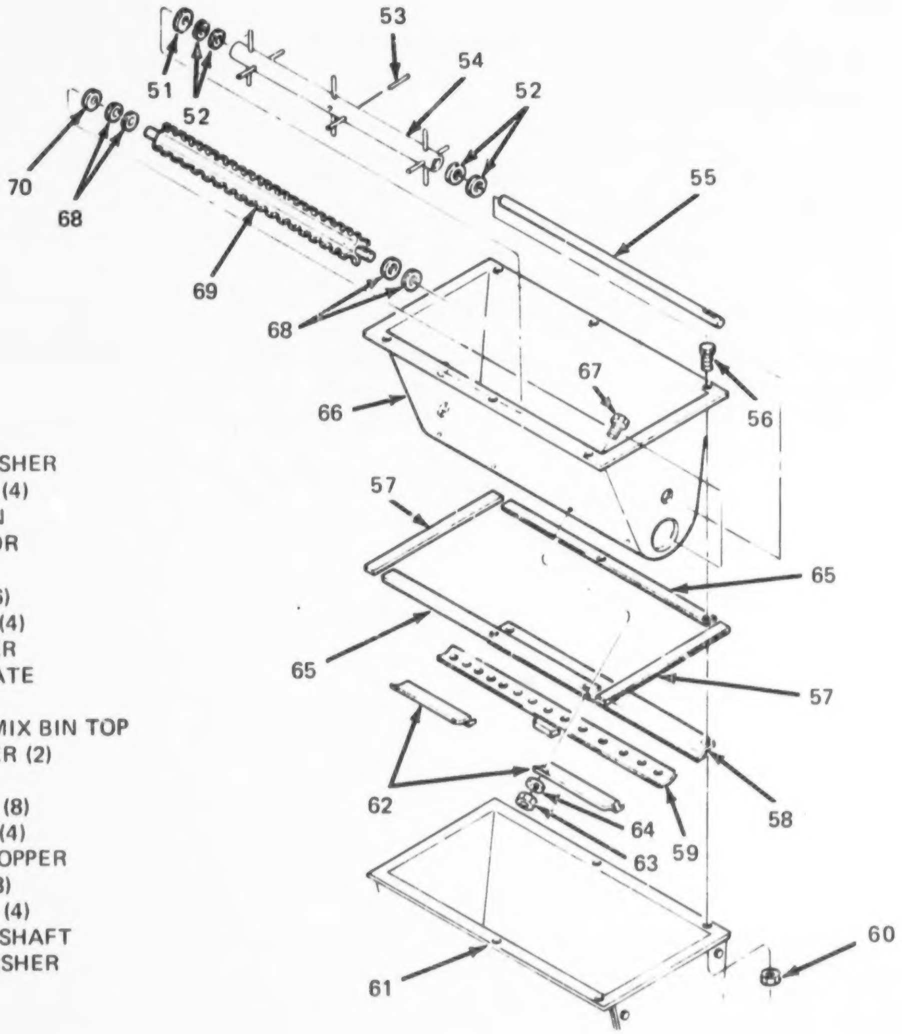
6-19. DRY ADMIX BIN MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS
B. DISASSEMBLY (Continued).		
25. Felt washer (51), and four washers (52).	Remove from inner hopper (66).	
26. Feeder shaft (69).	Remove.	
27. Four washers (68), and felt washers (70).	Remove.	
28. Six screws (56), and nuts (60).	Loosen and remove screws and nuts. Lift inner hopper (66), from dry admix bin (61).	
29. Four gaskets (57) and four gaskets (65).	Remove if torn.	
30. Eight screws (67), eight lockwashers (64), and eight nuts (63).	Remove.	
31. Retainer (58), two retainers (62), and slide plate (59).	Remove.	

ADMIX SYSTEMS.

6-19. DRY ADMIX BIN MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS



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LEGEND:

51. FELT WASHER
52. WASHER (4)
53. ROLL PIN
54. AGITATOR
55. SHAFT
56. SCREW (6)
57. GASKET (4)
58. RETAINER
59. SLIDE GATE
60. NUT (6)
61. DRY ADMIX BIN TOP
62. RETAINER (2)
63. NUT (8)
64. WASHER (8)
65. GASKET (4)
66. INNER HOPPER
67. SCREW (8)
68. WASHER (4)
69. FEEDER SHAFT
70. FELT WASHER

TA 076279

ADMIX SYSTEMS.

6-19. DRY ADMIX BIN MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS
B. DISASSEMBLY (Continued).		
32. Four screws (79), four lockwashers (80), four flat washers (83) and four nuts (82).	Remove.	
33. Two screws (73 and 74), two lockwashers (72), two lockwashers (86) and two nuts (85).	Remove handle (71).	
34. Clutch half (88) and key (78).	Remove.	
35. Two setscrews (87).	Remove.	
36. Two lubrication fittings (81).	Remove.	
37. Four set screws (75), two collars (76), and two bearings (77).	Remove from shaft (84).	Clean and polish shaft.

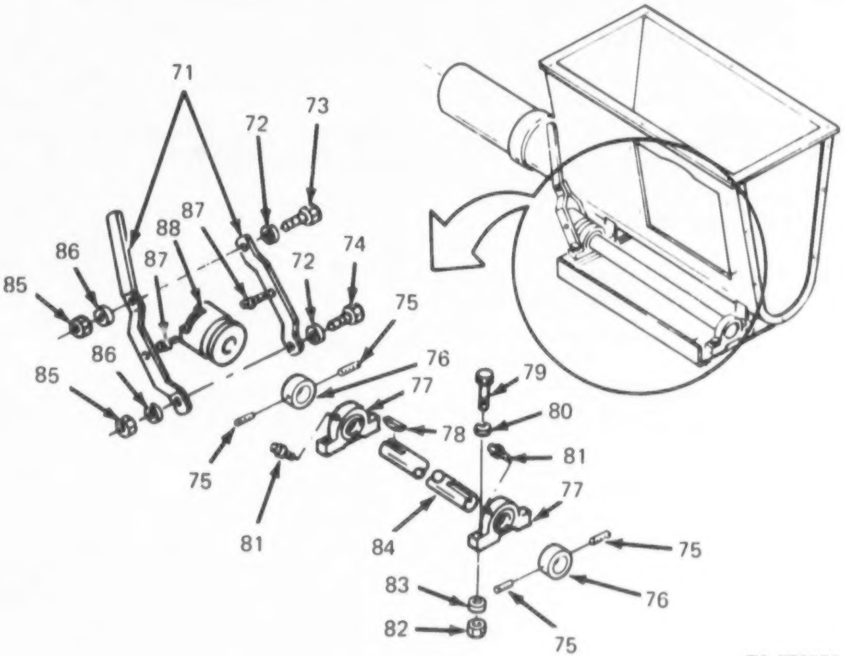
ADMIX SYSTEMS.

6-19. DRY ADMIX BIN MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS

LEGEND:

71. HANDLE
72. LOCKWASHER (2)
73. SCREW
74. SCREW
75. SETSCREW (4)
76. COLLAR (2)
77. BEARING (2)
78. KEY
79. SCREW (4)
80. LOCKWASHER (4)
81. LUBRICATION FITTING (2)
82. NUT (4)
83. FLAT WASHER (4)
84. SHAFT
85. NUT (2)
86. LOCKWASHER (2)
87. SETSCREW (2)
88. CLUTCH HALF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ADMIX SYSTEMS.

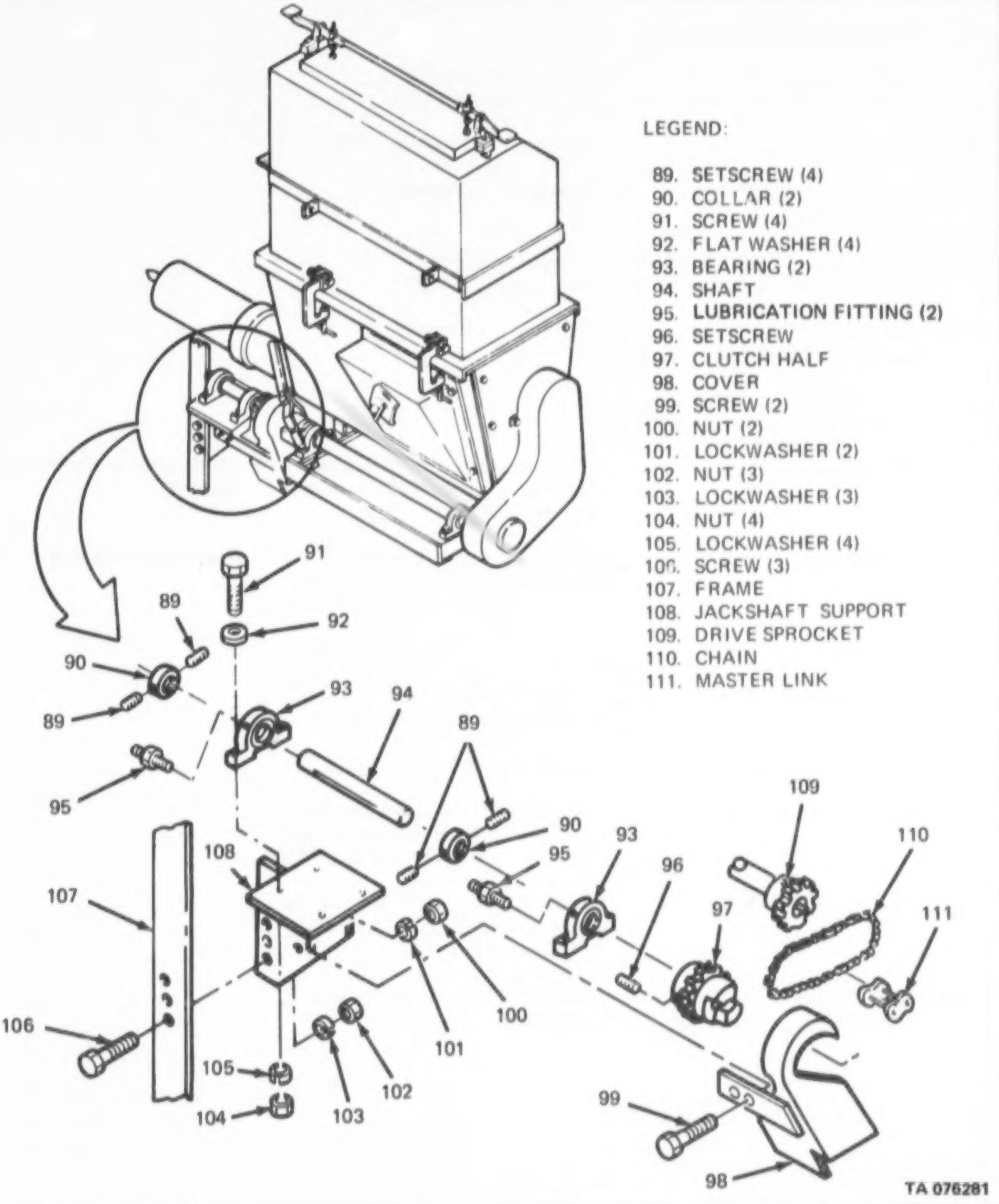
6-19. DRY ADMIX BIN MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS
B. DISASSEMBLY (Continued).		
38. Master link (111) and chain (110).	Remove from chain (110); chain from drive sprocket (109 and clutch half (97).	Mark chain to aid assembly.
39. Two screws (99), lockwashers (101, nuts (100), and setscrew (96).	Unscrew and remove cover (98) and clutch half (97).	
40. Four setscrews (89), four screws (91), flat washers (92), lockwashers (105) and nuts (104).	Loosen set screws (89) and remove two collars (90).	
41. Two bearings (93) and lubrication fittings (95).	Remove bearings (93) from shaft (94); remove lubrication fittings (95) from bearings (93).	Clean and polish shaft.
42. Three screws (106), lockwashers (103), and nuts (102).	Unscrew and remove jackshaft support (108) and frame (107).	

ADMIX SYSTEMS.

6-19. DRY ADMIX BIN MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS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LEGEND:

89. SETSCREW (4)
90. COLLAR (2)
91. SCREW (4)
92. FLAT WASHER (4)
93. BEARING (2)
94. SHAFT
95. LUBRICATION FITTING (2)
96. SETSCREW
97. CLUTCH HALF
98. COVER
99. SCREW (2)
100. NUT (2)
101. LOCKWASHER (2)
102. NUT (3)
103. LOCKWASHER (3)
104. NUT (4)
105. LOCKWASHER (4)
106. SCREW (3)
107. FRAME
108. JACKSHAFT SUPPORT
109. DRIVE SPROCKET
110. CHAIN
111. MASTER LINK

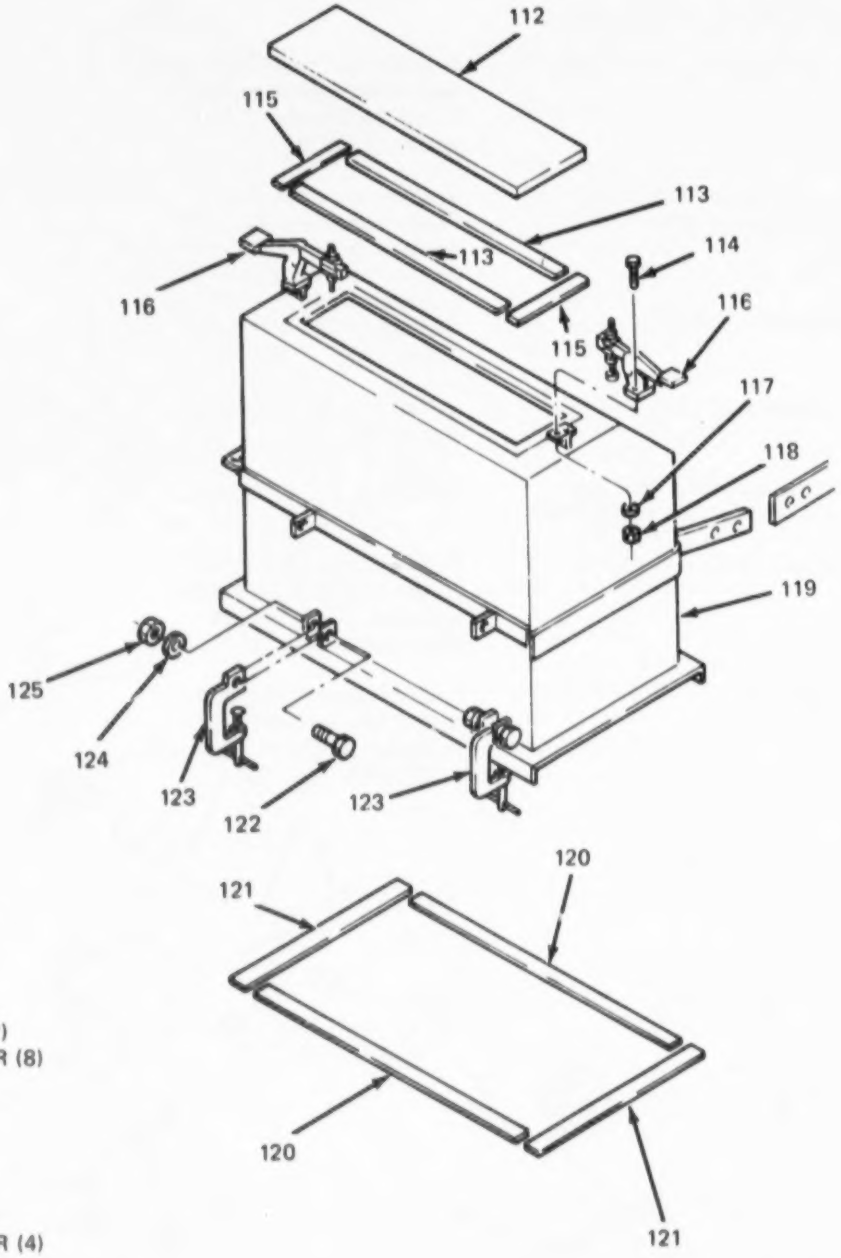
TA 076281

6-19. DRY ADMIX BIN MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS
B. DISASSEMBLY (Continued).		
43. Eight screws (114), lockwashers (117) and nuts (118).	Loosen and remove two lid clamps (116).	
44. Hopper lid (112).	Lift from top hopper (119).	
45. Two gaskets (113), and two gaskets (115).	Remove if necessary.	
46. Four screws (122), lockwashers (124), and nuts (125).	Loosen and remove four C-clamps (123).	
47. Two gaskets (120), and two gaskets (121).	Remove if necessary.	
C. CLEANING AND INSPECTION.		
48. All metal parts.	Clean and inspect for cracks, broken welds, rust and broken pieces.	Paint, weld or replace as required.
49. All bearings.	Check for roughness and looseness.	Replace as required.
D. ASSEMBLY.		
50. Two gaskets (112) and (115).	Install in hopper lid (112) if removed during disassembly.	
51. Hopper lid (112).	Install on top hopper (119).	
52. Two lid clamps (116).	Position lid clamps (116), and secure with eight screws (114), lockwashers (117) and nuts (118).	
53. Four C-clamps (123).	Aline C-clamps and secure with four screws (122), lockwashers (124), and nuts (125).	
54. Two gaskets (120) and 121).	Install if removed during disassembly.	

6-19. DRY ADMIX BIN MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS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LEGEND:

112. HOPPER LID
113. GASKET (2)
114. SCREW (8)
115. GASKET (2)
116. LID CLAMP (2)
117. LOCKWASHER (8)
118. NUT (8)
119. TOP HOPPER
120. GASKET (2)
121. GASKET (2)
122. SCREW (4)
123. C-CLAMP (4)
124. LOCKWASHER (4)
125. NUT (4)

TA 076282

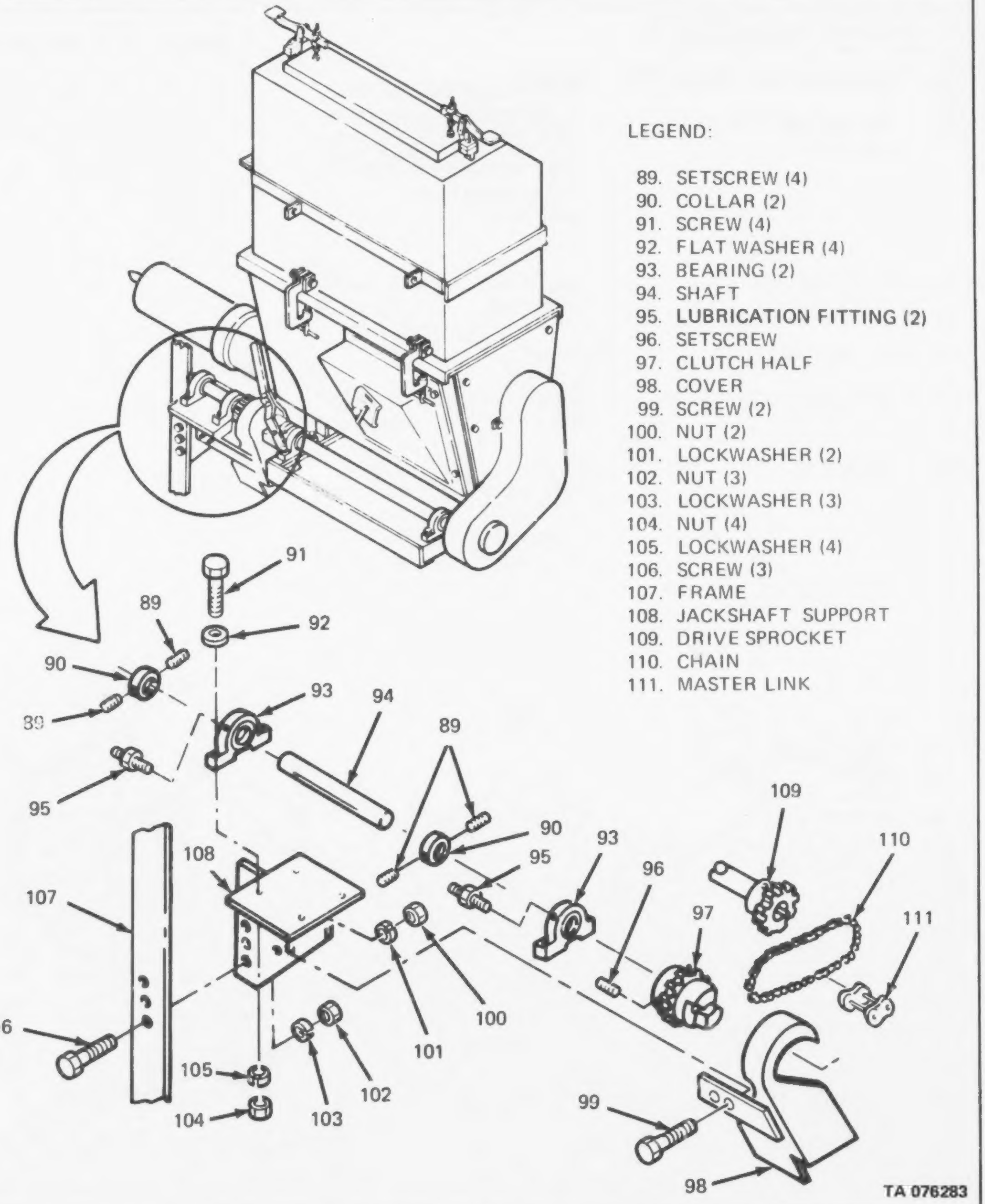
6-19. DRY ADMIX BIN MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS
D. ASSEMBLY (Continued).		
55. Jack shaft support (108).	Position to frame (107) and secure with three screws (106), lockwashers (101), and nuts (102).	
56. Two bearings (93) and two collars (90).	Position on shaft (94). Position bearing (93) over holes in jackshaft support (108) and install four screws (91), flat washers (92), lockwashers (105), and nuts (104).	
57. Clutch half (97).	Install and secure with set screw (96).	
58. Four setscrews (89) and two lubrication fittings /95).	Install.	
59. Chain (110).	Position chain (110) on clutch half (97), and drive sprocket (109). Secure with master link (111).	
60. Cover (98).	Position cover (98), and install two screws (99), lockwashers (101), and nuts (100).	

ADMIX SYSTEMS.

6-19. DRY ADMIX BIN MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS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LEGEND:

89. SETSCREW (4)
90. COLLAR (2)
91. SCREW (4)
92. FLAT WASHER (4)
93. BEARING (2)
94. SHAFT
95. LUBRICATION FITTING (2)
96. SETSCREW
97. CLUTCH HALF
98. COVER
99. SCREW (2)
100. NUT (2)
101. LOCKWASHER (2)
102. NUT (3)
103. LOCKWASHER (3)
104. NUT (4)
105. LOCKWASHER (4)
106. SCREW (3)
107. FRAME
108. JACKSHAFT SUPPORT
109. DRIVE SPROCKET
110. CHAIN
111. MASTER LINK

TA 076283

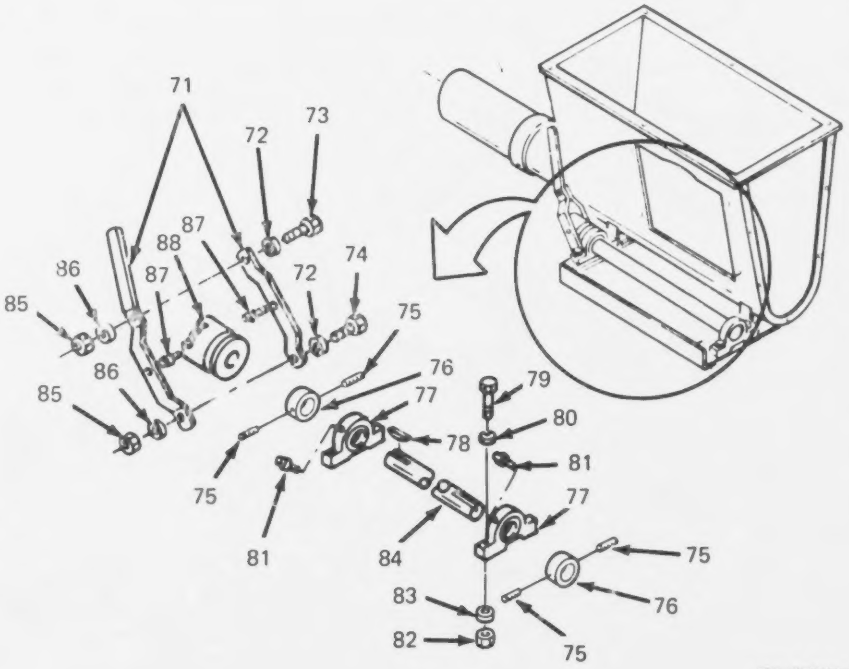
ADMIX SYSTEMS.

6-19. DRY ADMIX BIN MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS
D. ASSEMBLY (Continued).		
61. Two lubrication fittings (81).	Install.	
62. Two bearings (77), and collars (76).	Position on shaft (84) and install four screws (79), lockwashers (80), flat washers (83) and nuts (82).	
63. Clutch half (88).	Install with key (78), on shaft (84).	
64. Four set screws (75).	Install.	
65. Two Setscrews (87).	Install and adjust to fit in groove of clutch half (88).	
66. Handle (71).	Position on clutch half (88), and install two screws (73 and 74), four lockwashers (72 and 86), and two nuts (85).	

LEGEND:

71. HANDLE
72. LOCKWASHER (2)
73. SCREW
74. SCREW
75. SETSCREW (4)
76. COLLAR (2)
77. BEARING (2)
78. KEY
79. SCREW (4)
80. LOCKWASHER (4)
81. LUBRICATION FITTING (2)
82. NUT (4)
83. FLAT WASHER (4)
84. SHAFT
85. NUT (2)
86. LOCKWASHER (2)
87. SETSCREW (2)
88. CLUTCH HALF



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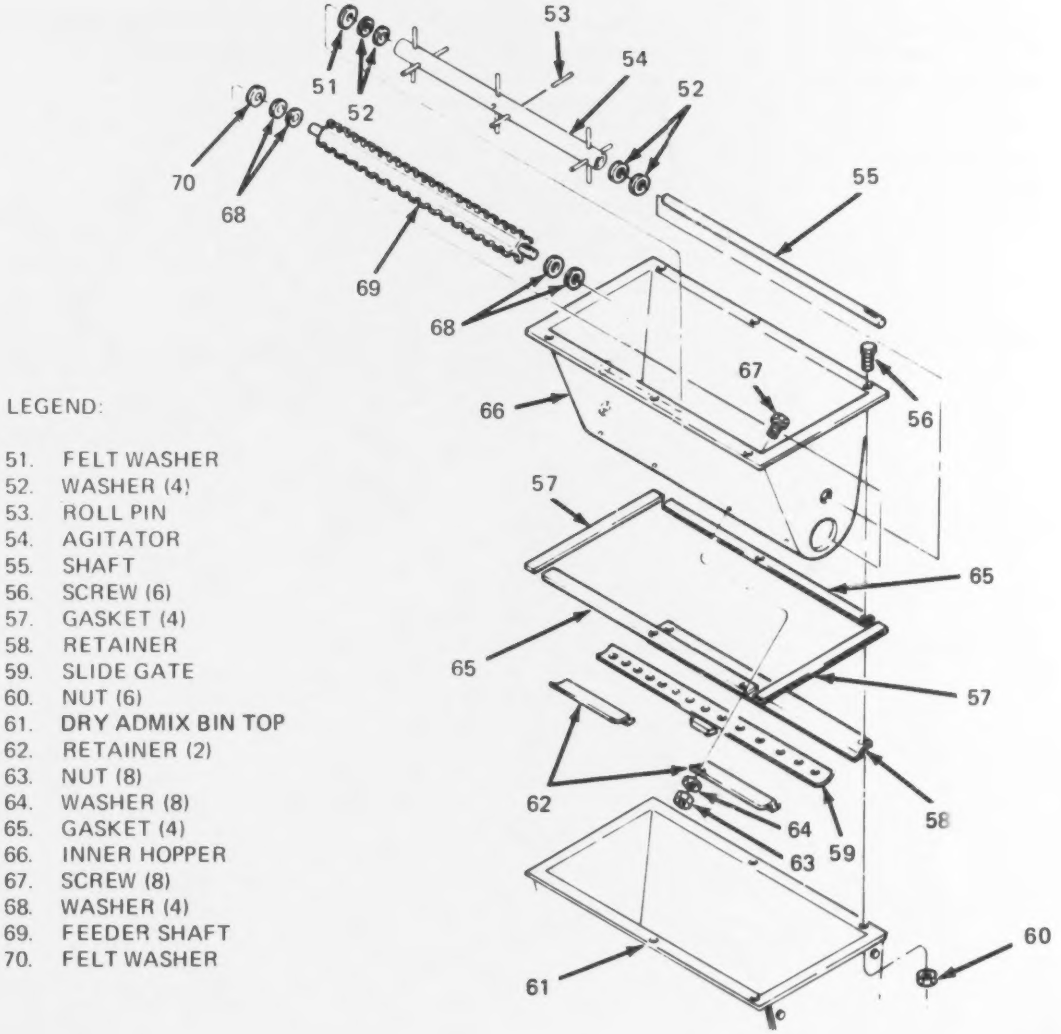
ADMIX SYSTEMS.

6-19. DRY ADMIX BIN MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS
D. ASSEMBLY (Continued).		
67. Retainer (58), two retainers (62), and slide gate (59).	Install on bottom of inner hopper (66), with eight screws (67), lockwashers (64), and nuts (63).	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LEGEND:

51. FELT WASHER
52. WASHER (4)
53. ROLL PIN
54. AGITATOR
55. SHAFT
56. SCREW (6)
57. GASKET (4)
58. RETAINER
59. SLIDE GATE
60. NUT (6)
61. DRY ADMIX BIN TOP
62. RETAINER (2)
63. NUT (8)
64. WASHER (8)
65. GASKET (4)
66. INNER HOPPER
67. SCREW (8)
68. WASHER (4)
69. FEEDER SHAFT
70. FELT WASHER

TA 076285

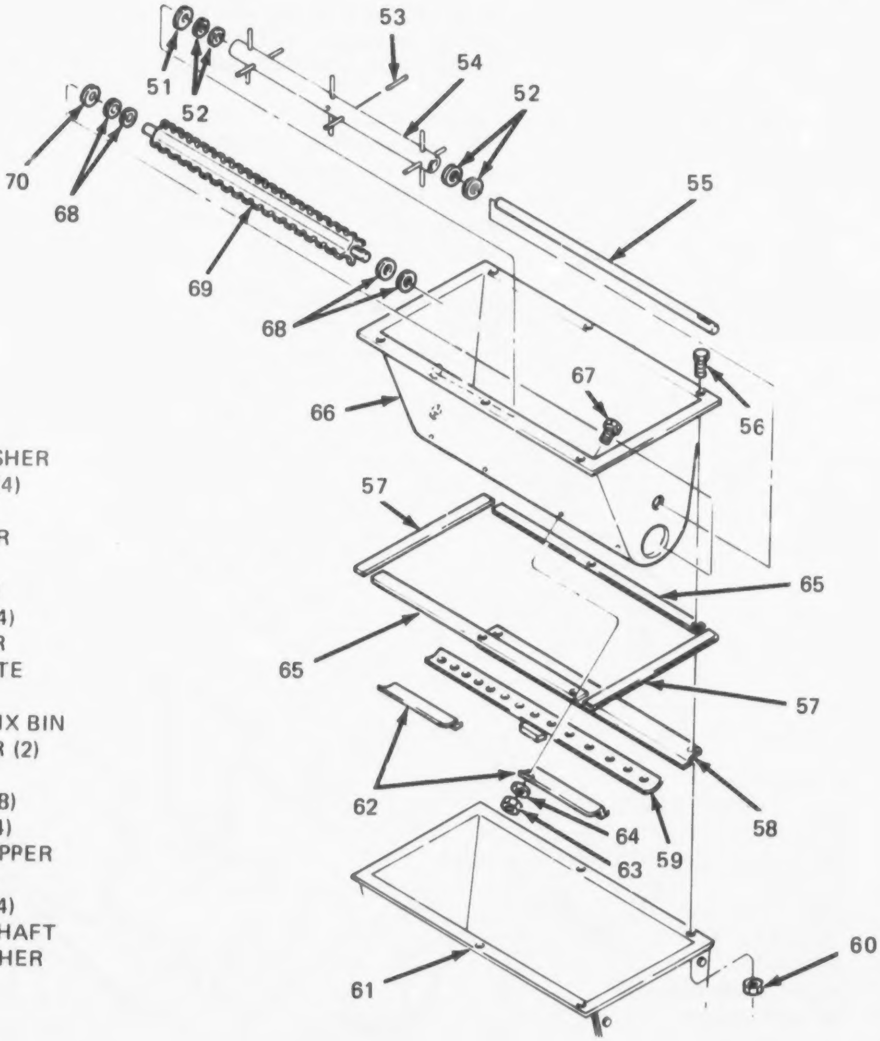
6-19. DRY ADMIX BIN MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS
D. ASSEMBLY (Continued).		
68. Four gaskets (57) and four gaskets (65).	Install on bottom edge of inner hopper (66), if removed during disassembly.	Two each side.
69. Inner hopper (66).	Install with six screws (56), and six nuts (60) to dry admix bin top (61).	
70. Felt washer (70), four washers (68), and feeder shaft (69).	Position felt washer (70), and two washers (68) on feeder shaft (69). Install feeder shaft (69) and two washers (68).	Support feeder shaft so that it stays level.
71. Felt washer (51), four washers (52), and agitator (54).	Position in inner hopper (66) and drive shaft (55) thru inner hopper (66), two washers (52), agitator (54), two washers (52), felt washer (51), and inner hopper (66).	
72. Roll pin (53).	Aline holes in agitator (54) and shaft (55). Install roll pin (53).	

ADMIX SYSTEMS.

6-19. DRY ADMIX BIN MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS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LEGEND:

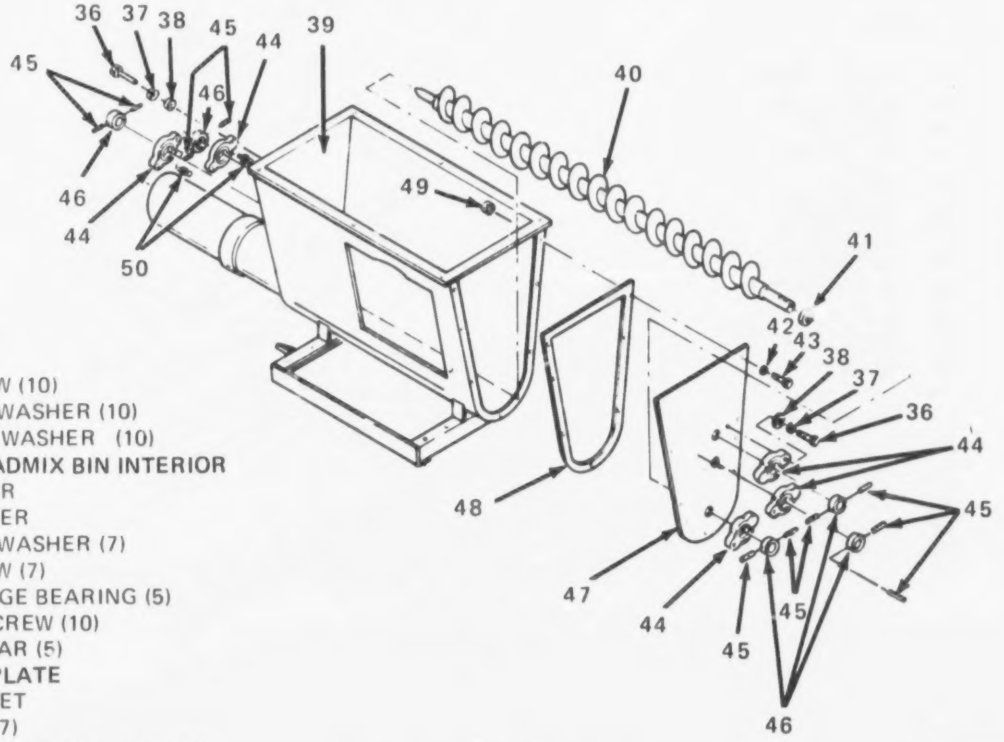
51. FELT WASHER
52. WASHER (4)
53. ROLL PIN
54. AGITATOR
55. SHAFT
56. SCREW (6)
57. GASKET (4)
58. RETAINER
59. SLIDE GATE
60. NUT (6)
61. DRY ADMIX BIN
62. RETAINER (2)
63. NUT (8)
64. WASHER (8)
65. GASKET (4)
66. INNER HOPPER
67. SCREW (8)
68. WASHER (4)
69. FEEDER SHAFT
70. FELT WASHER

TA 076286

ADMIX SYSTEMS.

6-19. DRY ADMIX BIN MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS
D. ASSEMBLY (Continued).		
73. Auger (40).	Install.	
74. Washer (41).	Install on sprocket end of auger (40).	
75. Gasket (48), and plate (47).	Position on dry admix bin interior (39) over shafts and install seven screws (43), lockwashers (42), and nuts (49).	
76. Five flange bearings (44) and two lubrication fittings (50).	Position and install ten screws (36), lockwashers (37), and flat washers (38). Install two lubrication fittings (50) in the two bearings (44) on left end of dry admix bin interior (39).	
77. Five collars (46) and setscrews (45).	Install collars (46), against bearings (44) and tighten ten set screws (45).	



LEGEND:

36. SCREW (10)
37. LOCKWASHER (10)
38. FLAT WASHER (10)
39. DRY ADMIX BIN INTERIOR
40. AUGER
41. WASHER
42. LOCKWASHER (7)
43. SCREW (7)
44. FLANGE BEARING (5)
45. SETSCREW (10)
46. COLLAR (5)
47. END PLATE
48. GASKET
49. NUT (7)
50. LUBRICATION FITTING (2)

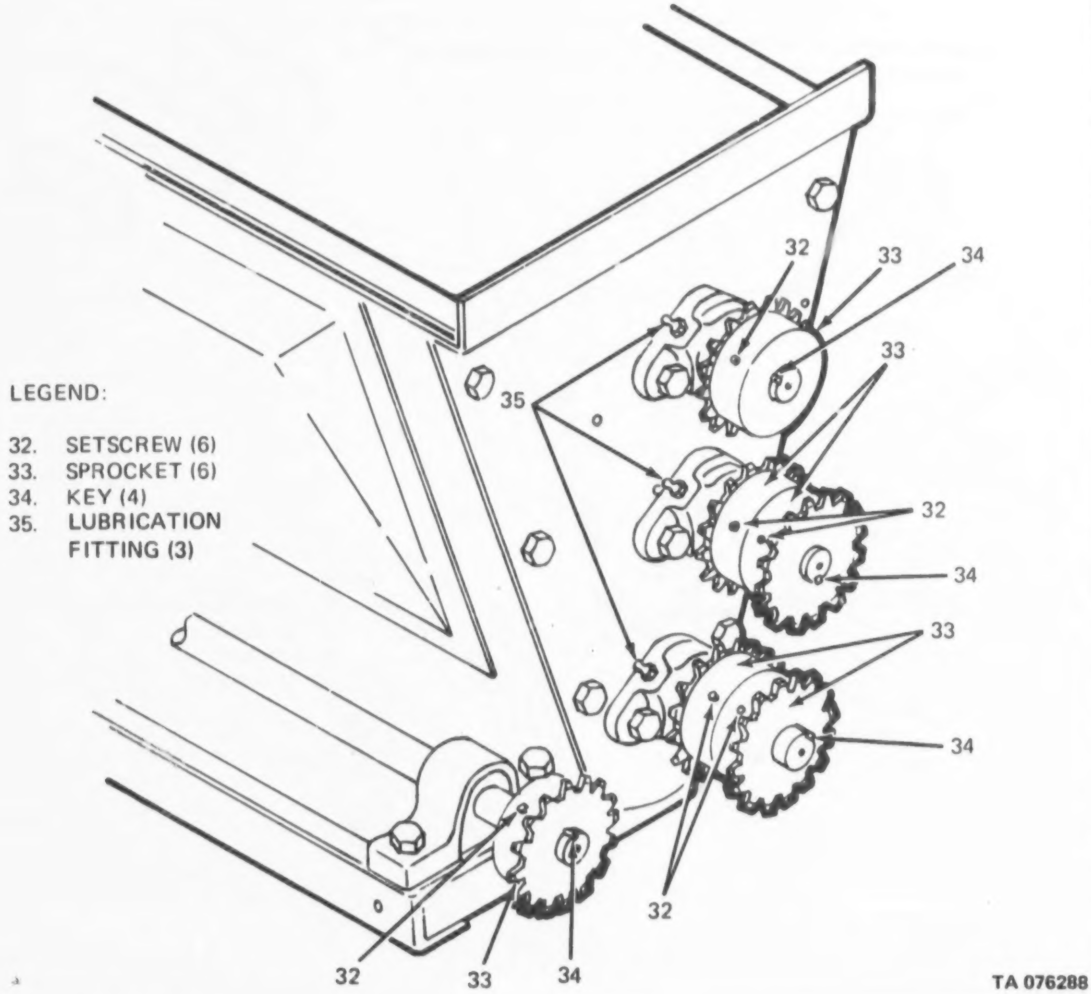
TA 076287

ADMIX SYSTEMS.

6-19. DRY ADMIX BIN MAINTENANCE (Continued).

D. ASSEMBLY (Continued).

LOCATION/ITEM	ACTION	REMARKS
78. Four keys (34).	Install.	Refer to mark on shaft from disassembly.
79. Three lubrication fittings (35).	Install.	
80. Six sprockets (33).	Install.	Aline inner sprockets with the upper sprocket and outer sprockets with each other.
81. Six setscrews (32).	Tighten.	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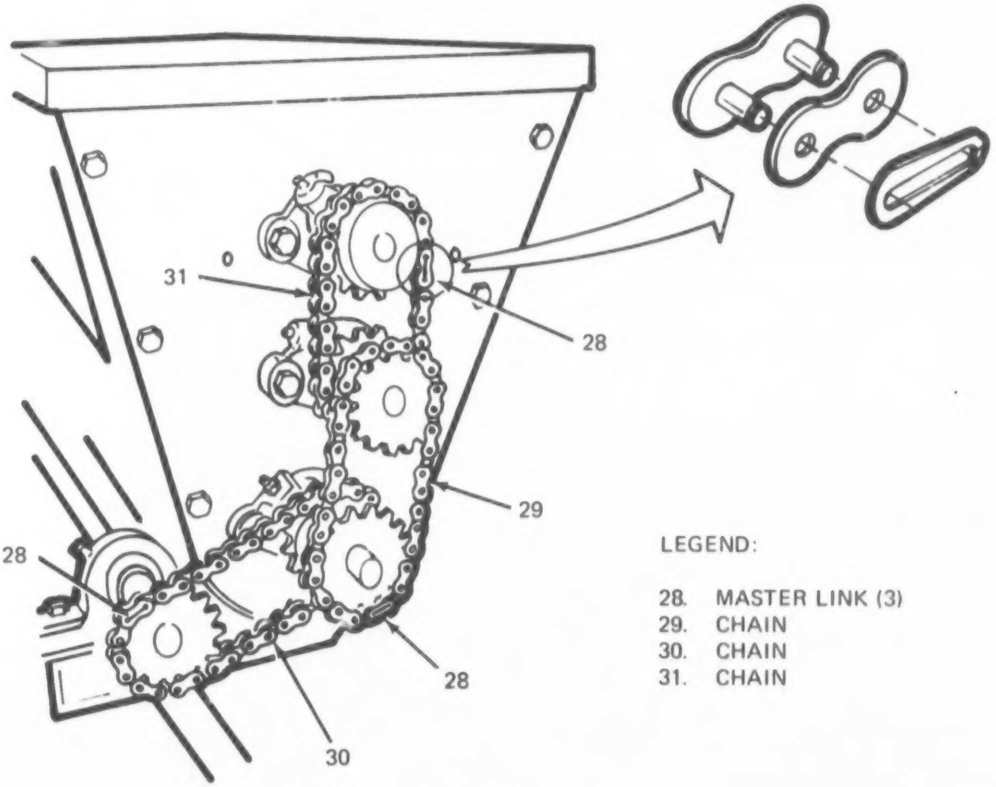
LEGEND:
32. SETSCREW (6)
33. SPROCKET (6)
34. KEY (4)
35. LUBRICATION FITTING (3)
TA 076288

6-19. DRY ADMIX BIN MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS
D. ASSEMBLY (Continued).		
82. Three chains (29, 30, and 31).	Install.	Install as marked during disassembly. Install inner chains first.
83. Three master links (28).	Connect chains.	



LEGEND:

28. MASTER LINK (3)
29. CHAIN
30. CHAIN
31. CHAIN

TA 076289

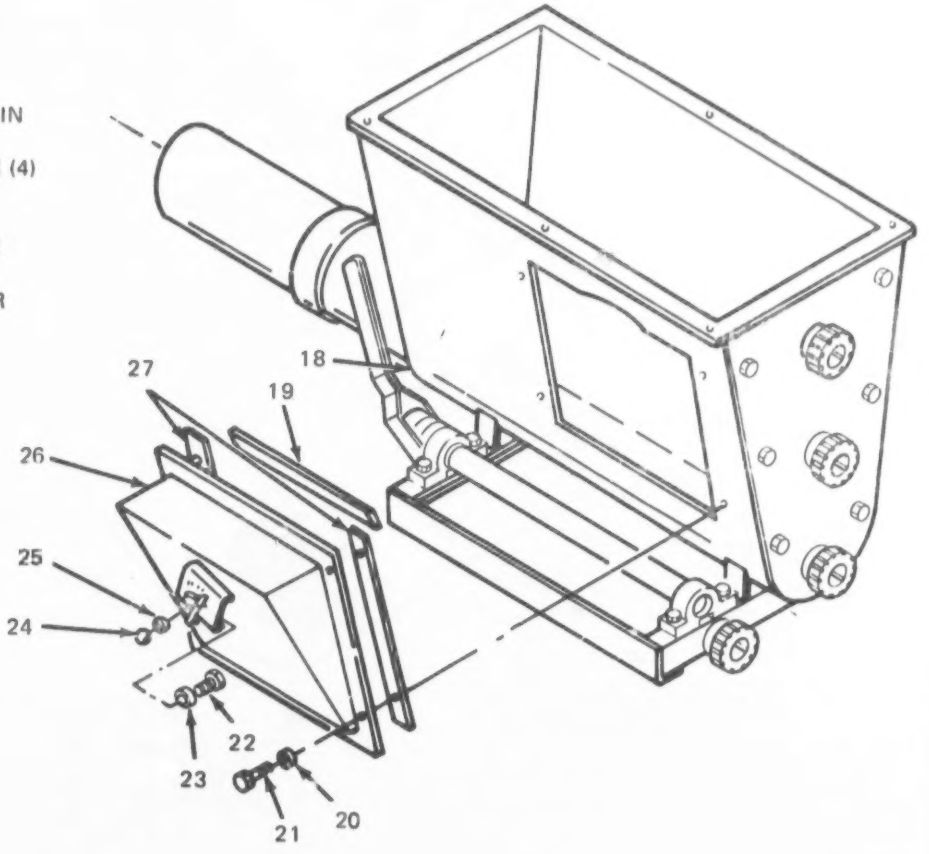
ADMIX SYSTEMS.

6-19. DRY ADMIX BIN MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS
D. ASSEMBLY (Continued).		
84. Screw (22), lockwasher (23), flat washer (25), and knob (24).	Install screw (22) and lockwasher (23), thru back side of indicator on side cover. Position flat washer (25) on screw (22), and install knob (24).	
85. Two gaskets (27), and gasket (19).	Install on side cover (26).	
86. Side cover (26).	Position side cover (26), on dry admix bin (18), and install four screws (21), and lockwashers (20).	

LEGEND:

18. DRY ADMIX BIN
19. GASKET
20. LOCKWASHER (4)
21. SCREW (4)
22. SCREW
23. LOCKWASHER
24. KNOB
25. FLAT WASHER
26. SIDE COVER
27. GASKET (2)



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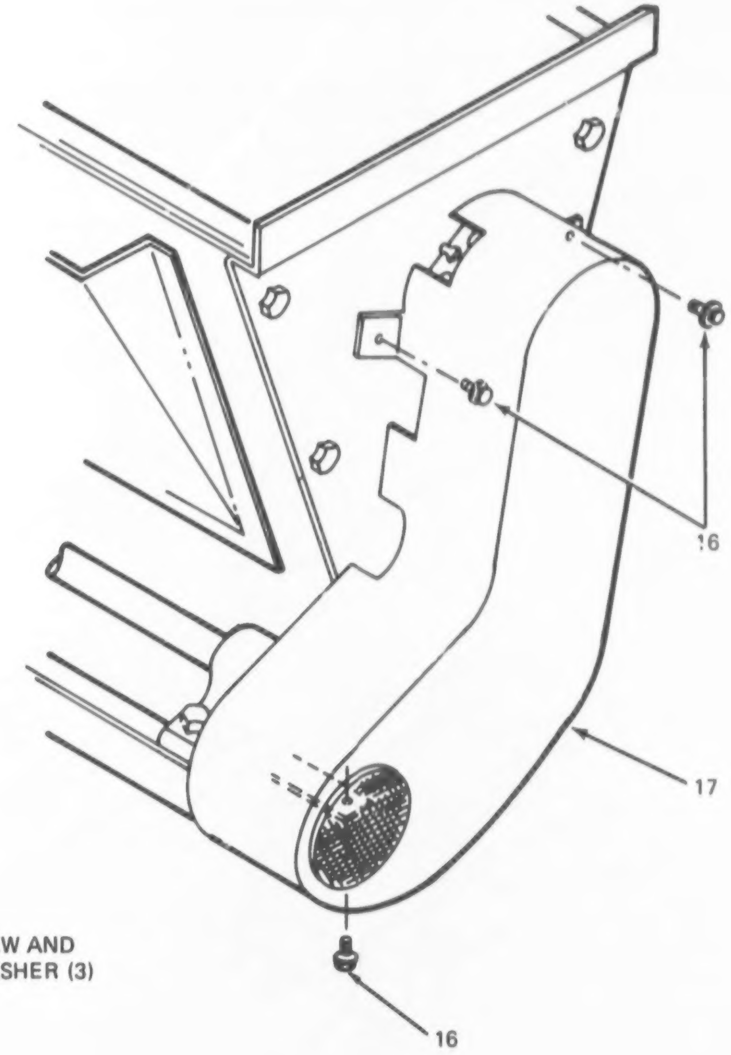
ADMIX SYSTEMS.

6-19. DRY ADMIX BIN MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS
D. ASSEMBLY (Continued).		
87. Cover (17).	Set in place.	
88. Three capscrews and washers (16).	Install and tighten.	



LEGEND:

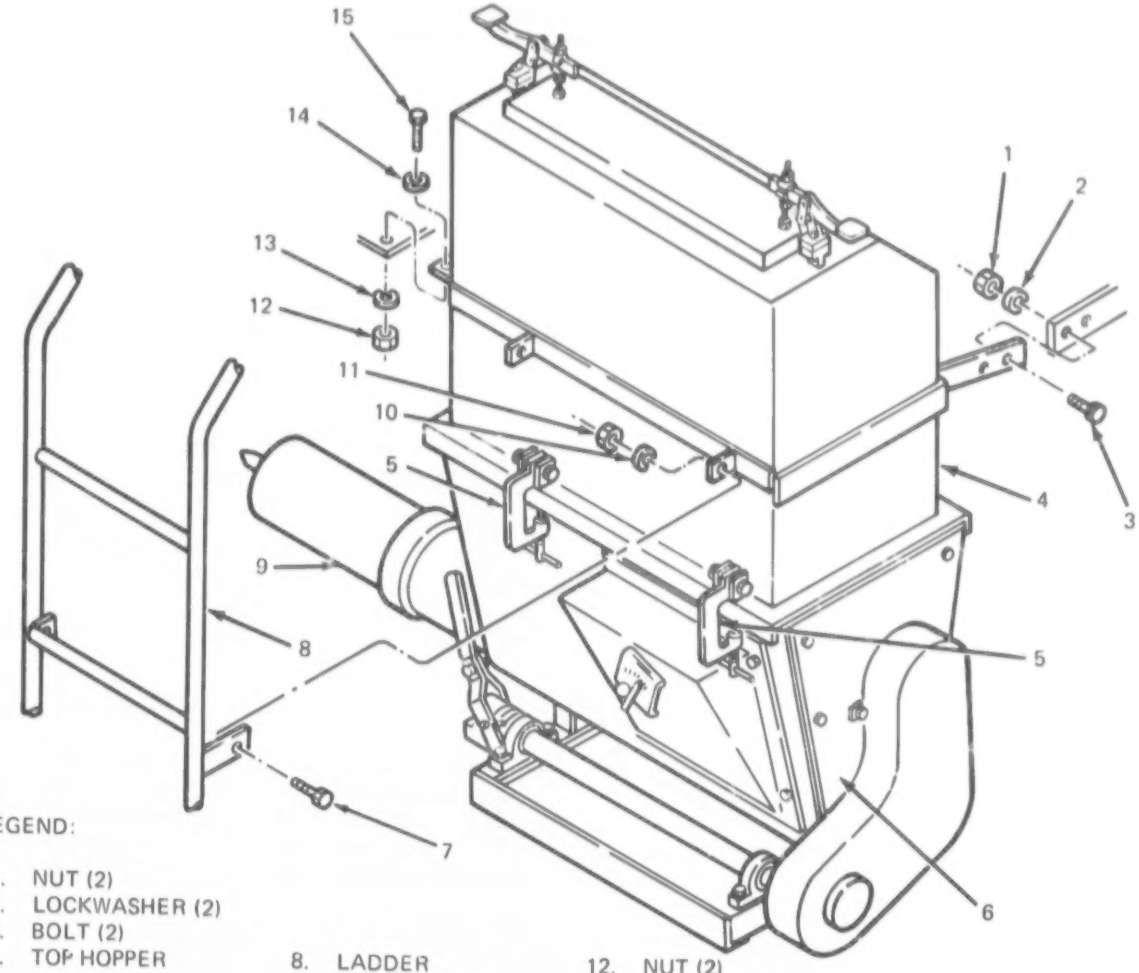
16. CAPSCREW AND LOCKWASHER (3)
17. COVER

TA 076291

ADMIX SYSTEMS.

6-19. DRY ADMIX BIN MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS
E. INSTALLATION.		
89. Top hopper (4).	Position top hopper (4), and install four bolts (3 and 15), two flat washers (14), four lockwashers (2 and 13), and four nuts (1 and 12).	



LEGEND:

1. NUT (2)
2. LOCKWASHER (2)
3. BOLT (2)
4. TOP HOPPER
5. C-CLAMP (4)
6. DRY ADMIX BIN
7. BOLT (2)
8. LADDER
9. AUGER COVER
10. LOCKWASHER (2)
11. NUT (2)
12. NUT (2)
13. LOCKWASHER (2)
14. FLAT WASHER (2)
15. BOLT (2)

TA 076292

ADMIX SYSTEMS.

6-19. DRY ADMIX BIN MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS
E. INSTALLATION (Continued).		
90. Ladder (8).	Position and install two bolts (7), lockwashers (10), and nuts (11).	
91. Dry admix bin assembly (6), and four C-clamps (5).	Insert auger cover (9) first, then raise and push the dry admix bin assembly (6), to the left and seat against top hopper (4) and clamp in place with four C-clamps (5).	

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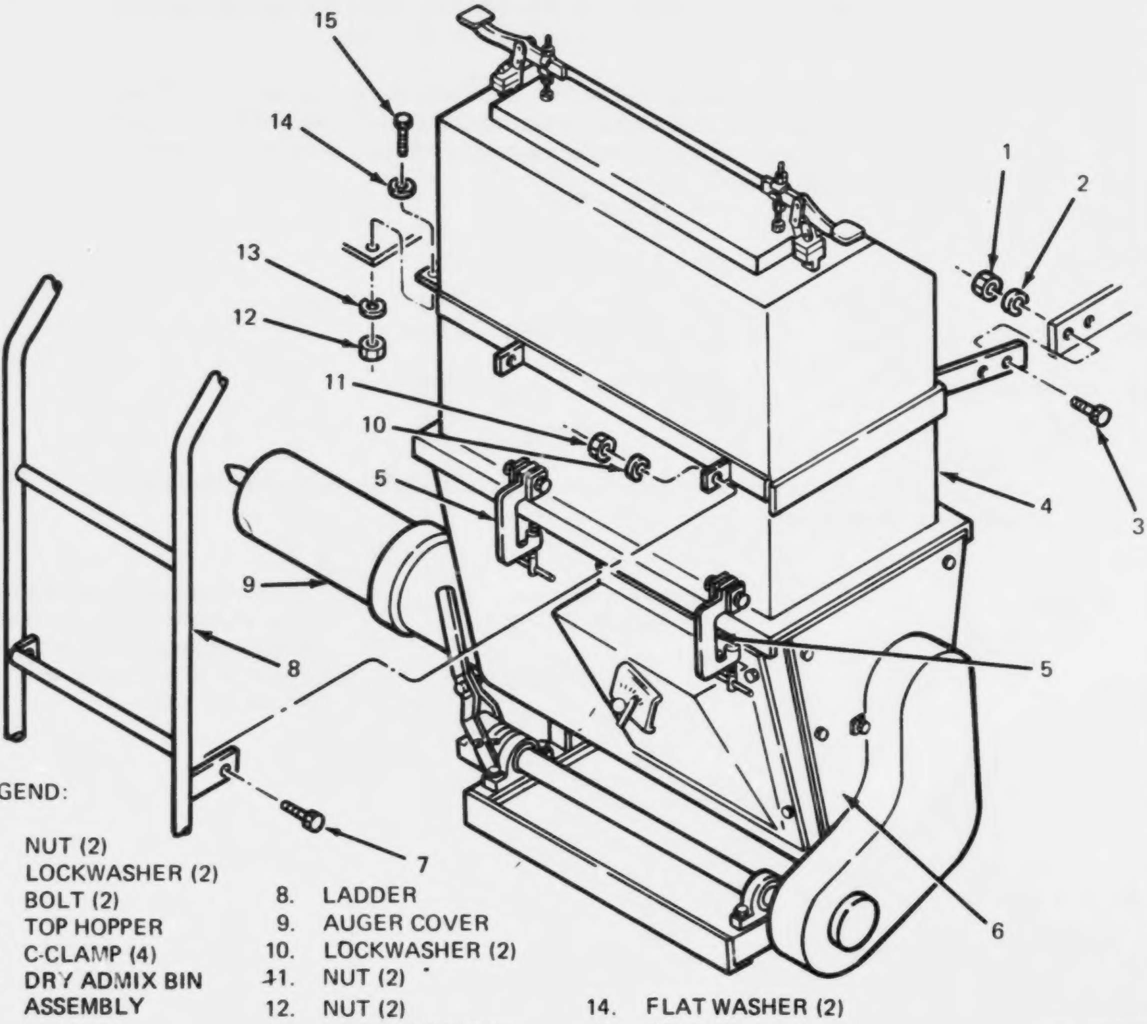
6-19. DRY ADMIX BIN MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS



LEGEND:

1. NUT (2)
2. LOCKWASHER (2)
3. BOLT (2)
4. TOP HOPPER
5. C-CLAMP (4)
6. DRY ADMIX BIN ASSEMBLY
7. BOLT (2)
8. LADDER
9. AUGER COVER
10. LOCKWASHER (2)
11. NUT (2)
12. NUT (2)
13. LOCKWASHER (2)
14. FLAT WASHER (2)
15. BOLT (2)

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ADMIX SYSTEMS.

6-19. DRY ADMIX BIN MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS

F. TEST.

NOTE

Due to the wide variation of weights of the materials and the amounts required, the calibration must be made with the materials to be used.

In order to calibrate the exactorate system, the sand, stone, and cement bin on the mixer must be empty. The clutch operating the cement metering wheel must be engaged. When calibrating, the mixer must be operating at its regular speed, refer to TM 5-3895-372-10.

LOCATION/ITEM	ACTION	REMARKS
92. Top hopper.	Fill with material to be used.	
93. Indicator dial.	Place in half open position.	

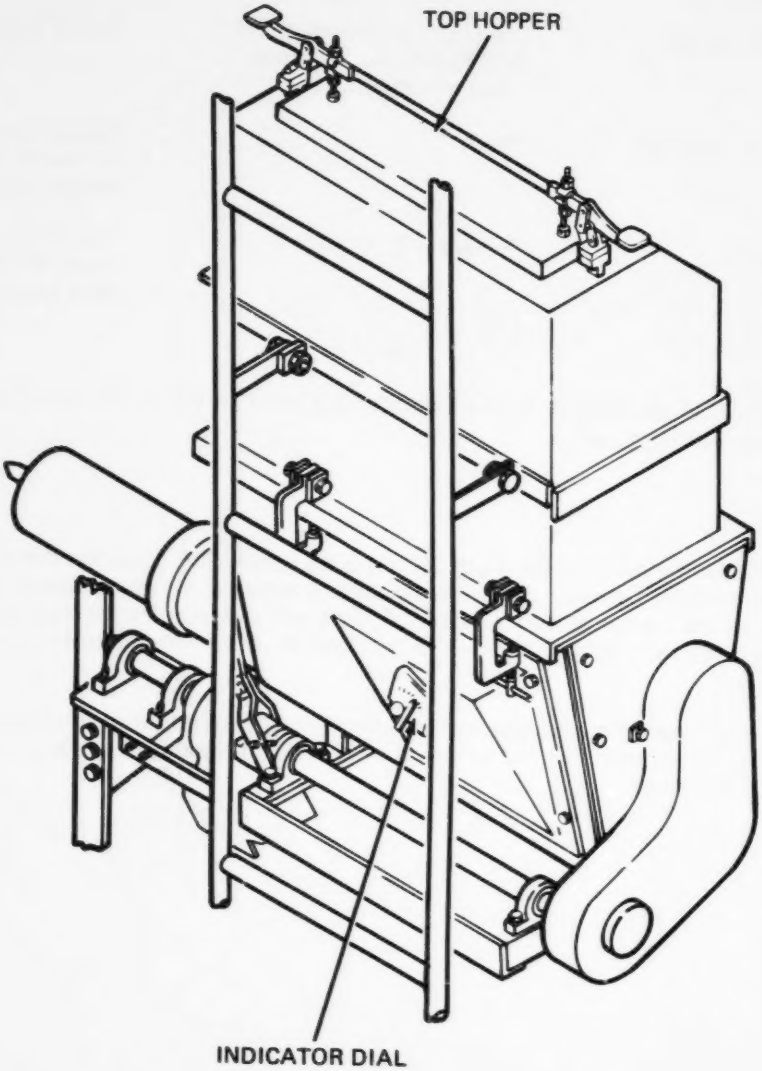
NOTE

Prepare an empty container to catch the material as it falls from the belt. Weigh container before using.

LOCATION/ITEM	ACTION	REMARKS
94. Mixer.	Place in operation TM 5-3895-372-10.	Run off enough material to give a true weight when starting to calibrate. Catch the material in container as it drops off belt.

ADMIX SYSTEMS.

6-19. DRY ADMIX BIN MAINTENANCE (Continued).		
LOCATION/ITEM	ACTION	REMARKS


TOP HOPPER
INDICATOR DIAL

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ADMIX SYSTEMS.

6-19. DRY ADMIX BIN MAINTENANCE (Continued).

F. TEST (Continued).

LOCATION/ITEM	ACTION	REMARKS
95. Cement meter register.	Use count as shown in TM 5-3895-372-10 to deliver 1 bag of cement.	Multiply this count by 4.
96. Container with material.	Weigh.	Deduct the weight of the container to obtain material weight only.
97. Material weight.	Divide by 4.	This is then the amount of material being delivered for each bag of cement used.

NOTE

Do this at various settings on the indicator dial as required by the amount of material to be used in the mix.

EXAMPLE:

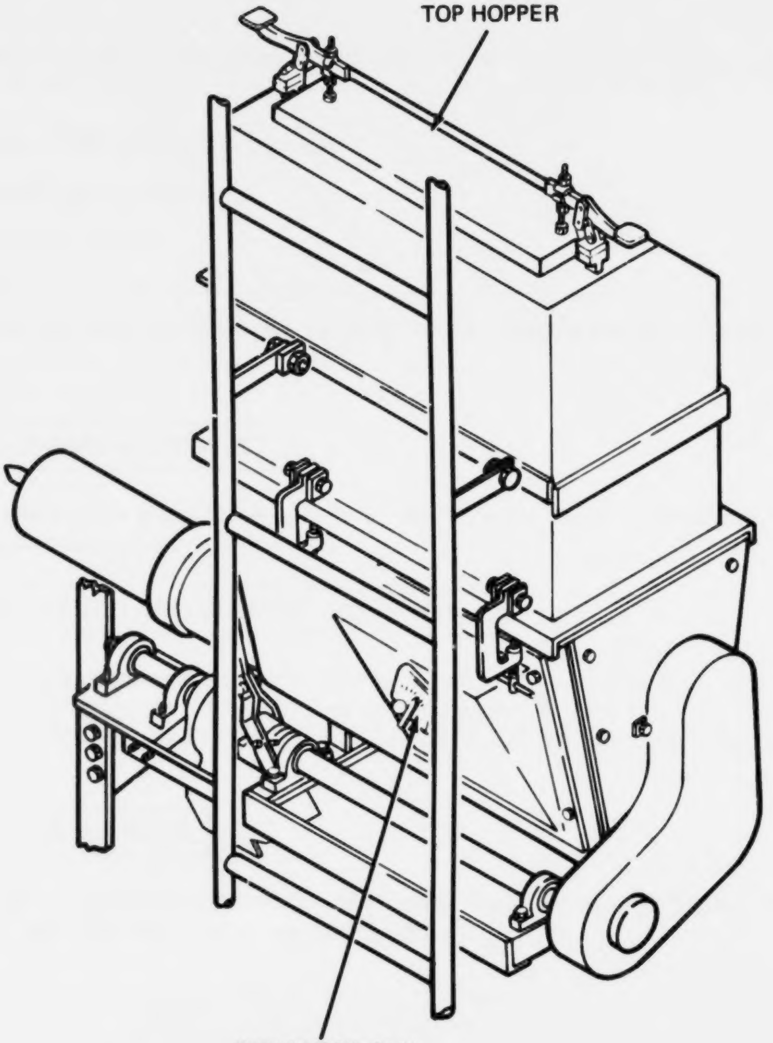
The metering wheel on the mixer is 66. Four (4) times 66 equals 264 count on the meter. Discharge this amount in the container at the exactorate dial setting selected, weigh container and material, deduct the weight of the container and divide by 4. This will give you the amount of material per bag of cement. Repeat at various settings as often as required to determine amounts to be discharged per bag of cement.

The exactorate system may also be calibrated by using the time required to discharge one (1) bag of cement. The time will be shown in front of the manual. This method is not as accurate as the 4 bag method previously described.

ADMIX SYSTEMS.

6-19. DRY ADMIX BIN MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS


TOP HOPPER
INDICATOR DIAL

TA 076295

CHAPTER 7

AGGREGATE SUPPLY SYSTEM

7-1. OVERVIEW.

This chapter provides you with the following information related to aggregate supply system maintenance.

a. All required special tools and equipment.

b. Troubleshooting procedures.

c. Maintenance procedures.

Section I REPAIR PARTS, SPECIAL TOOLS, TMDE, AND SUPPORT EQUIPMENT

7-2. COMMON TOOLS AND EQUIPMENT.

For authorized common tools and equipment, refer to the Modified Table of Organization and Equipment (MTOE) applicable to your unit.

7-3. SPECIAL TOOLS, TMDE, AND SUPPORT EQUIPMENT.

The special tools, TMDE, and support equipment for aggregate supply system maintenance procedures described in this chapter are limited to gate opening gage, 3 x 3 x 8 in. (76 x 76 x 203 mm). (Refer to Organizational Maintenance RPSTL, TM 5-3895-372-20P for tool description and illustration.)

7-4. SPARES AND REPAIR PARTS.

Spares and repair parts are listed and illustrated in the Repair Parts and Special Tools List covering Organizational Maintenance for this equipment (TM 5-3895-372-20P).

Section II TROUBLESHOOTING

7-5. INTRODUCTION.

Troubleshooting procedures for the aggregate supply system are given in table 7-1. It is arranged by malfunctions, in the following order:

a. Conveyor belt does not move (Malfunction No. 1).

b. Conveyor belt is loose (Malfunction No. 2).

c. Conveyor belt is torn or damaged (Malfunction No. 3).

d. Sand or stone drops on ground beneath Concrete Mobile during mixing (Malfunction No. 4).

e. Sand or stone controls out of adjustment (Malfunction No. 5).

f. Excessive wear on chains (Malfunction No. 6).

Table 7-1. Aggregate Supply System Troubleshooting Procedures.

MALFUNCTION

TEST OR INSPECTION

CORRECTIVE ACTION

1. CONVEYOR BELT DOES NOT MOVE:

Step 1. Check that PTO and main clutch are engaged.

Engage PTO and main clutch.

Step 2. Check for broken shear bolt.

NOTE

A broken bolt is caused by some other problem. Often something is caught on the belt or chain. Unless you correct this problem, shear bolts will continue to break.

a. Find cause of shearing. Correct problem.

b. Replace shear bolt.

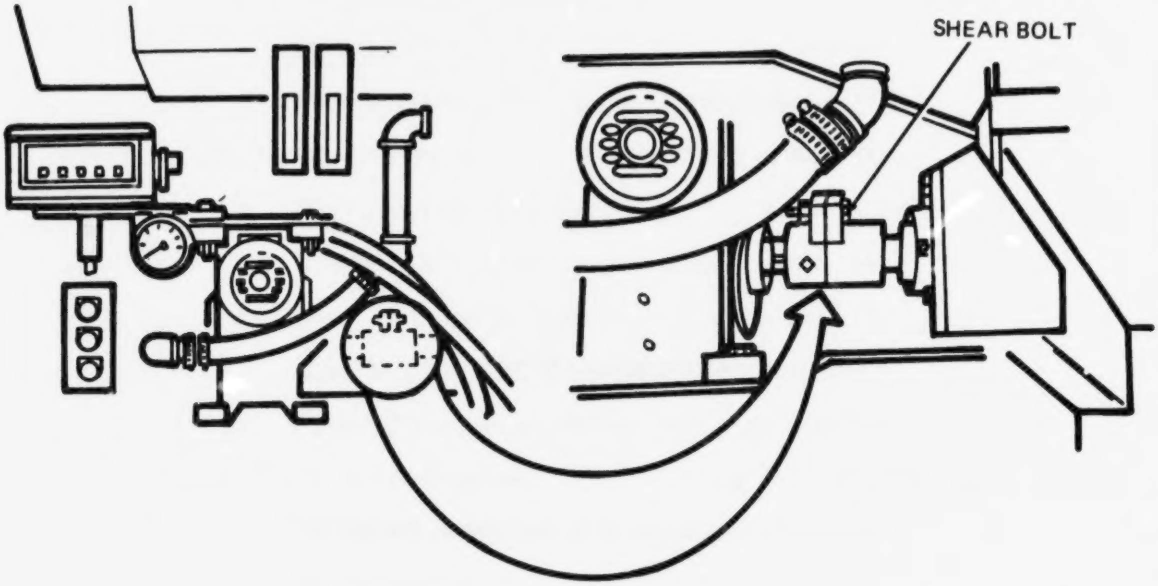


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Table 7-1. Aggregate Supply System Troubleshooting Procedures (Continued).

MALFUNCTION

TEST OR INSPECTION

CORRECTIVE ACTION

1. CONVEYOR BELT DOES NOT MOVE (Continued).

Step 3. Check belt tension (para 7-13).

Adjust.

Step 4. Refer problem to Direct Support Maintenance.

2. CONVEYOR BELT IS LOOSE:

Check belt tensioning bolts for maladjustment.

Adjust bolts (para 7-13).

3. CONVEYOR BELT IS TORN OR DAMAGED:

Step 1. Check belt tension (para 7-13).

Adjust.

Step 2. Check for material stuck between belt and guides or underneath belt.

a. Remove sand and stone from bins.

b. Remove:

(1) Large stones.

(2) Lumps of frozen sand.

(3) Wood.

(4) Metal.

(5) Tools.

c. Check belt tension (para 7-13).

Adjust.

Step 3. Check gates for blockage.

Remove blocks. Check gates for smooth operation.

Table 7-1. Aggregate Supply System Troubleshooting Procedures (Continued).

MALFUNCTION

TEST OR INSPECTION

CORRECTIVE ACTION

3. CONVEYOR BELT IS TORN OR DAMAGED (Continued):

Step 4. Check for 1/16 in. (1.59 mm) clearance between metal guides, and top of belt.

Adjust guides (para 7-10).

Step 5. Check operation of vibrators.

Troubleshoot air system (para 11-5).

Step 6. Check for damaged cross bars.

a. Empty sand and stone bins.

b. Operate belt. Use low operating speed.

c. As each cross bar passes inspection ports, check for:

(1) Bends.

(2) Breaks.

(3) Twists.

(4) Looseness.

d. Refer problem to Direct Support Maintenance.

Step 7. Check for damaged chain.

a. Empty sand and stone bins.

b. Operate belt. Use low operating speed.

c. Check for proper lubrication of chain.

(See TM 5-3895-372-10 and LO 5-3895-372-12).

d. As each link passes sprocket at rear, check for:

(1) Loose crossbars.

(2) Crossbars attached to wrong links.

(3) Broken links.

e. Refer problem to Direct Support Maintenance.

Table 7-1. Aggregate Supply System Troubleshooting Procedures (Continued).

MALFUNCTION

TEST OR INSPECTION

CORRECTIVE ACTION

---

3. CONVEYOR BELT IS TORN OR DAMAGED (Continued):

Step 8. Check for bridging or arching in sand and stone bins.

Use clean aggregates for good quality.

(See TM 5-3895-372-10).

4. SAND OR STONE DROPS ON GROUND BENEATH CONCRETE MOBILE DURING MIXING.

Step 1. Check for 1/16 in. (1.59 mm) clearance between metal guides and top of belt.

Adjust metal guides (para 7-10).

Step 2. Check that rubber guides touch belt.

Adjust rubber guides (para 7-9).

Step 3. Check that belt wiper is funneling all material into chute.

Adjust wipers (para 7-11 and 7-12).

5. SAND OR STONE CONTROLS OUT OF ADJUSTMENT:

Step 1. Check that drilled holes on shaft handwheels and pointer collars are alined.

(See TM 5-3895-372-10).

a. Loosen collar setscrew.

b. Aline holes.

c. Tighten setscrew.

Step 2. Use Gate Opening Gage to check sand and stone gate openings (See TM 5-3895-372-10). Gates should be open 3 in. (76 mm) when dials read 6.4 ± 0.2.

Adjust gate openings.

Step 3. Check universal joints for:

a. Looseness.

b. Breakage.

c. Alinement of drill holes.

Tighten, aline, or replace universal joints (para 7-18).

Table 7-1. Aggregate Supply System Troubleshooting Procedures (Continued).

MALFUNCTION

TEST OR INSPECTION

CORRECTIVE ACTION

5. SAND OR STONE CONTROLS OUT OF ADJUSTMENT (Continued):

Step 4. Check pinion gear for damage.

Refer problem to Direct Support Maintenance.

6. EXCESSIVE WEAR ON CHAINS:

Step 1. Check chain oiler. It should be full and set to deliver 5 drops/min.

Adjust delivery by turning the square headed screws.

NOTE

Remind operator to turn chain oiler on when he operates conveyor belt.

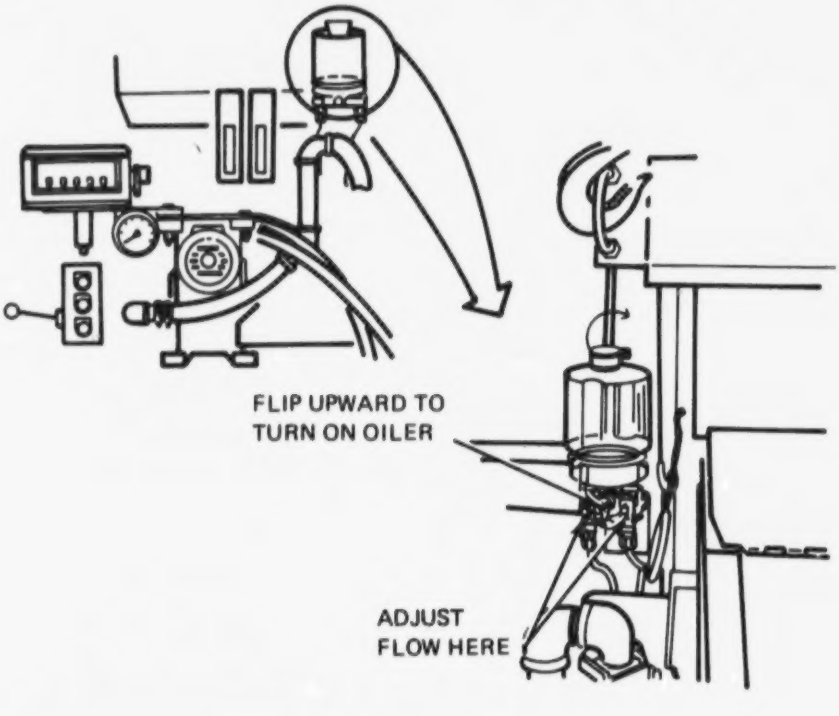

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Table 7-1. Aggregate Supply System Troubleshooting Procedures (Continued).

MALFUNCTION

TEST OR INSPECTION

CORRECTIVE ACTION

6. EXCESSIVE WEAR ON CHAINS (Continued):

Step 2. Check for plugged oil lines.

Clean out or replace oil lines.

Step 3. Check for broken chain rail.

Refer problem to Direct Support Maintenance.

Section III MAINTENANCE PROCEDURES

7-6. INTRODUCTION.

This section provides you with Organizational Level maintenance procedures for the aggregate supply system of the mixer body. Paragraph 7-7 summarizes the maintenance tasks. Paragraphs 7-8 thru 7-18 contain detailed instructions for each task.

7-7. AGGREGATE SUPPLY SYSTEM MAINTENANCE TASK SUMMARY.

INITIAL SETUP

APPLICABLE CONFIGURATIONS

M919.

TEST EQUIPMENT

None.

SPECIAL TOOLS

None.

MATERIALS/PARTS (P/N)

1¼ O.D. x 4 ft Long Pipe.
50 ft Rope (High Strength).
Mechanics Wire.
Towing Vehicle.
½ in. x 1 3/4 in. Bolts.
½ in. Nuts.
½ in. Flat Washers.
Fire Extinguisher.
Acetylene Torch.
Razor Knife.
Belt Lacer, NP5010 003 (50663).
Belt Lacer Pin, NP 5010 004 (50663).
Rubber Belt, NP 5028 027 (50663).
Nuts and Bolts, NP5043001 (50663).
Oil – (See Appendix C).
Sand Belt Wiper, NP2887002 (50663).
Stone Belt Wiper, NP2887000 (50663).
Conveyor Belt Assembly, NS3817007 (50663).
Conveyor Chain, NP3817008 (50663).

PERSONNEL REQUIRED

Three (MOS-62B20).

REFERENCES (TM)

TM 5-3895-372-20P.
TM 5-3895-372-10.
TM 9-2320-273-10.
LO 5-3895-372-12.

REFERENCES (TROUBLESHOOTING)

Table 7-1.

EQUIPMENT CONDITION PARAGRAPH	CONDITION DESCRIPTION
TM 9-2320-273-10.	Engine Running. P.T.O. Engaged.
TM 5-3895-372-10.	Screens Open Aggregate Bins Empty.
TM 5-3895-372-10.	Aggregate Bins Empty and Front Seals Open.
TM 5-3895-372-10.	Sand and Stone Gates Open. Cement Bin Clutch Disengaged. Admix Bin Clutch Disengaged.
9-9A.	Mix Auger Assembly Removed.
7-14A.	Conveyor Belt Removed.
TM 5-3895-372-10.	Bin Gates Closed.
TM 5-3895-372-10.	Gate Adjustment.
TM 5-3895-372-10.	Access Panels Removed.
4-10A.	Universal Joint Removed.

SPECIAL ENVIRONMENTAL CONDITIONS

Vehicle Parked on Level Ground.

GENERAL SAFETY INSTRUCTIONS

Parking Brake Set.
Be Extremely Careful to Avoid Moving Parts.
Exhaust System Components Can Cause Severe Burns.
Carbon Monoxide Poisoning Can Be Deadly.

7-7. AGGREGATE SUPPLY SYSTEM MAINTENANCE TASK SUMMARY (Continued).

LIST OF TASKS

TASK NO.	TASK	TASK REF	TROUBLESHOOTING REF (TABLE)
1.	Screens Maintenance:	7-8	7-1
	A. Removal.	7-8A	
	B. Repair.	7-8B	
	C. Installation.	7-8C	
2.	Rubber Guides Maintenance:	7-9	7-1
	A. Removal.	7-9A	
	B. Installation.	7-9B	
	C. Adjustment.	7-9C	
3.	Metal Guides and Sand Deflector Maintenance:	7-10	7-1
	A. Removal.	7-10A	
	B. Installation.	7-10B	
	C. Adjustment.	7-10C	
4.	Front Wipers Maintenance:	7-11	7-1
	A. Inspection.	7-11A	
	B. Removal.	7-11B	
	C. Installation.	7-11C	
	D. Adjustment.	7-11D	
5.	Rear Wiper Maintenance:	7-12	7-1
	A. Removal.	7-12A	
	B. Installation.	7-12B	
	C. Adjustment.	7-12C	
6.	Conveyor Belt Adjustment:	7-13	7-1
	A. Adjustment of belt.	7-13A	
	B. Even tension check.	7-13B	

7-7. AGGREGATE SUPPLY SYSTEM MAINTENANCE TASK SUMMARY (Continued).

LIST OF TASKS

TASK NO.	TASK	TASK REF	TROUBLESHOOTING REF (TABLE)
7.	Conveyor Belt Replacement:	7-14	7-1
	A. Removal.	7-14A	
	B. Installation.	7-14B	
	C. Operational check.	7-14C	
	D. Removal of broken belt.	7-14D	
8.	Conveyor Belt and Belt Lacer Repair:	7-15	7-1
	Repair.		
9.	Chain Oiler:	7-16	7-1
	A. Removal.	7-16A	
	B. Installation.	7-16B	
	C. Operational check.	7-16C	
10.	Sand or Stone Gates Maintenance:	7-17	7-1
	A. Removal.	7-17A	
	B. Inspection.	7-17B	
	C. Installation.	7-17C	
	D. Adjustment.	7-17D	
11.	Sand and Stone Controls Maintenance:	7-18	7-1
	A. Inspection.	7-18A	
	B. Removal.	7-18B	
	C. Repair.	7-18C	
	D. Installation.	7-18D	

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AGGREGATE SUPPLY SYSTEM.

7-8. SCREENS MAINTENANCE.

THIS TASK COVERS: (APPROXIMATE TIME REQUIRED FOLLOWS TASK DESCRIPTION.)

a. Removal.	(60)
b. Repair.	(30)
c. Installation.	(30)
	120 Minutes Total.

INITIAL SETUP

APPLICABLE CONFIGURATIONS

M919.

TEST EQUIPMENT

None.

SPECIAL TOOLS

None.

MATERIALS/PARTS (P/N)

None.

EQUIPMENT CONDITION PARAGRAPH	CONDITION DESCRIPTION
None.	None.

PERSONNEL REQUIRED

One (MOS-62B20).

REFERENCES (TM)

TM 5-3895-372-10.
TM 5-3895-372-20P.
TM 9-2320-273-10.

TROUBLESHOOTING REFERENCES

Table 7-1.

SPECIAL ENVIRONMENTAL CONDITIONS

Vehicle Parked on Level Ground.

GENERAL SAFETY INSTRUCTIONS

Engine Off.
Transmission in Neutral.
Parking Brake Set.

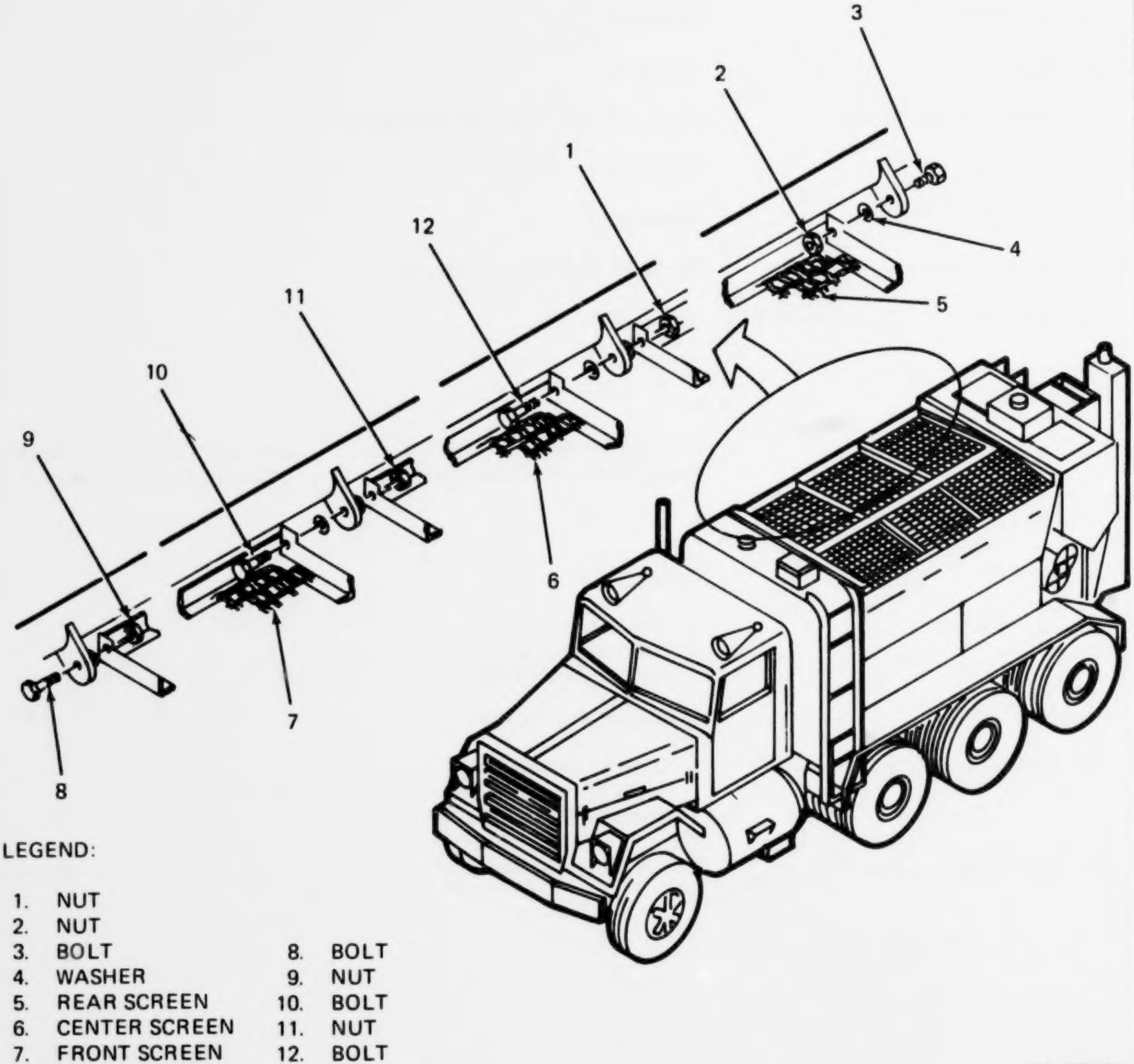
AGGREGATE SUPPLY SYSTEM.

7-8. SCREENS MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS

NOTE

The following procedure describes removal and installation of the stone bin screens. Sand bin screens are removed in the same manner. Washers (4) are used as spacers and will vary from vehicle to vehicle. When removed, tag so they can be installed in the same location.



LEGEND:

1. NUT
2. NUT
3. BOLT
4. WASHER
5. REAR SCREEN
6. CENTER SCREEN
7. FRONT SCREEN
8. BOLT
9. NUT
10. BOLT
11. NUT
12. BOLT

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AGGREGATE SUPPLY SYSTEM.

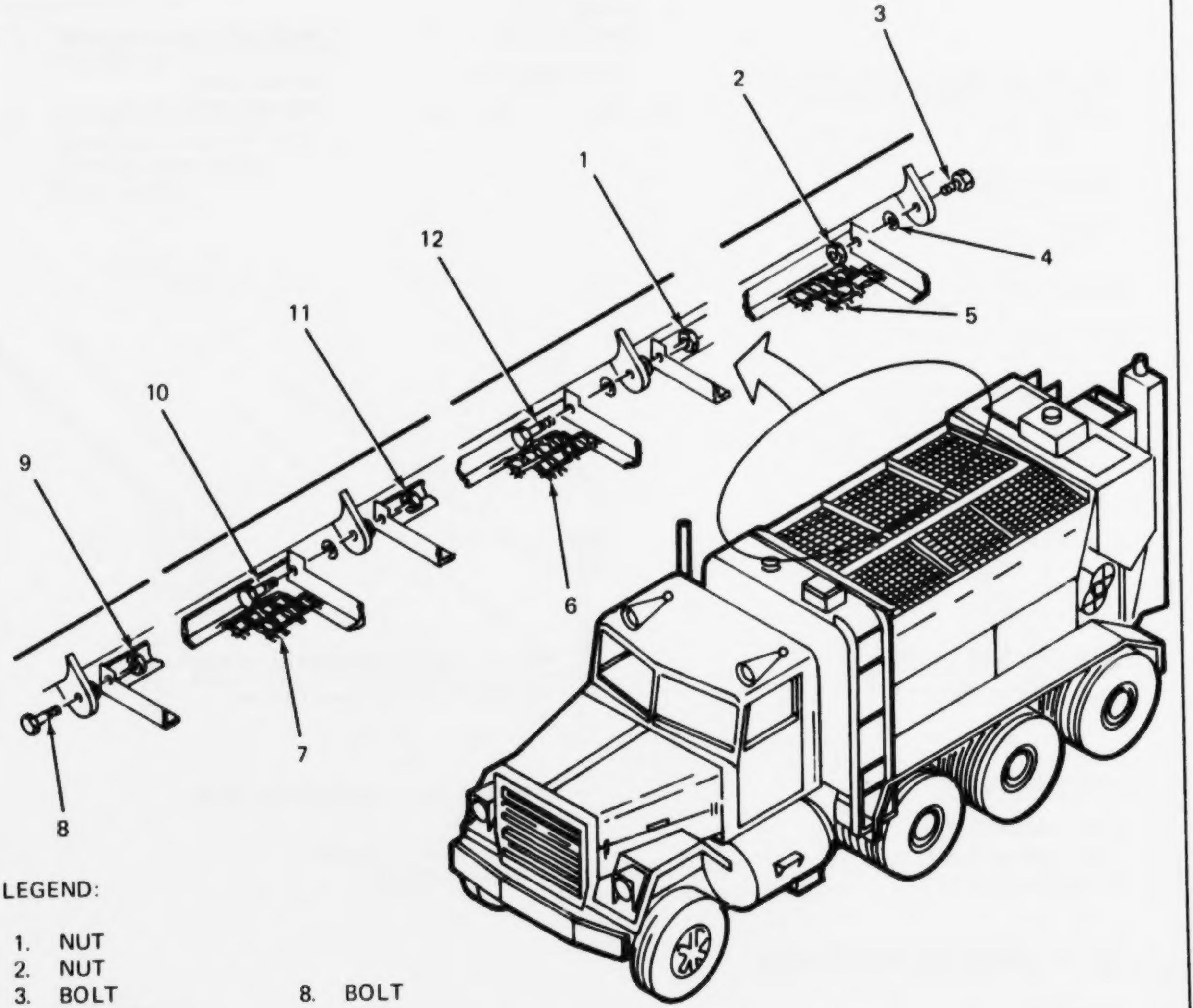
7-8. SCREENS MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS
A. REMOVAL.		
1. Nut (2) and bolt (3).	Remove.	
2. Nut (1).	Remove.	
3. Rear screen (5).	Slide off bolt (12) and remove.	
4. Nut (11).	Remove.	
5. Bolt (10).	Remove.	
6. Center screen (6).	Slide off bolt (10) and remove.	
7. Nut (9).	Remove.	
8. Bolt (10).	Remove.	
9. Front screen (7).	Slide off bolt (8) and remove.	
10. Bolt (8).	Remove.	
B. REPAIR.		
11. Screens (5), (6) and (7).	Weld screens using standard shop practices and techniques.	See also TM 9-237, Welding Theory and Application.
C. INSTALLATION.		
12. Bolt (8).	Set in place.	
13. Front screen (7).	a. Slide onto bolt (8). b. Support rear side by inserting bolt (10).	
14. Nut (9).	Screw on and tighten.	
15. Center screen (6).	a. Slide onto bolt (10). b. Support rear side by inserting bolt (12).	
16. Nut (11).	Screw on and tighten.	

AGGREGATE SUPPLY SYSTEM.

7-8. SCREENS MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS
C. INSTALLATION (Continued).		
17. Rear screen (5).	a. Slide onto bolt (12). b. Install and tighten bolt (2) and nut (3).	
18. Nut (1).	Screw on and tighten.	



LEGEND:

1. NUT
2. NUT
3. BOLT
4. WASHER
5. REAR SCREEN
6. CENTER SCREEN
7. FRONT SCREEN
8. BOLT
9. NUT
10. BOLT
11. NUT
12. BOLT

TA 076299

AGGREGATE SUPPLY SYSTEM.

7-9. RUBBER GUIDES MAINTENANCE (Continued).

THIS TASK COVERS: (APPROXIMATE TIME REQUIRED FOLLOWS TASK DESCRIPTION.)

a. Removal.	(10)
b. Installation.	(10)
c. Adjustment.	(30)
	50 Minutes Total.

INITIAL SETUP

APPLICABLE CONFIGURATIONS

M919.

TEST EQUIPMENT

None.

SPECIAL TOOLS

None.

MATERIALS/PARTS (P/N)

None.

EQUIPMENT CONDITION PARAGRAPH	CONDITION DESCRIPTION
TM 5-3895-372-10.	Screens Open. Aggregate Bins Empty.

PERSONNEL REQUIRED

Two (MOS-62B20).

REFERENCES (TM)

TM 5-3895-372-10.
TM 5-3895-372-20P.
TM 9-2320-273-10.

TROUBLESHOOTING REFERENCES

Table 7-1.

SPECIAL ENVIRONMENTAL CONDITIONS

Vehicle Parked on Level Ground.

GENERAL SAFETY INSTRUCTIONS

Engine Off.
Transmission in Neutral.
Parking Brake Set.

AGGREGATE SUPPLY SYSTEM.

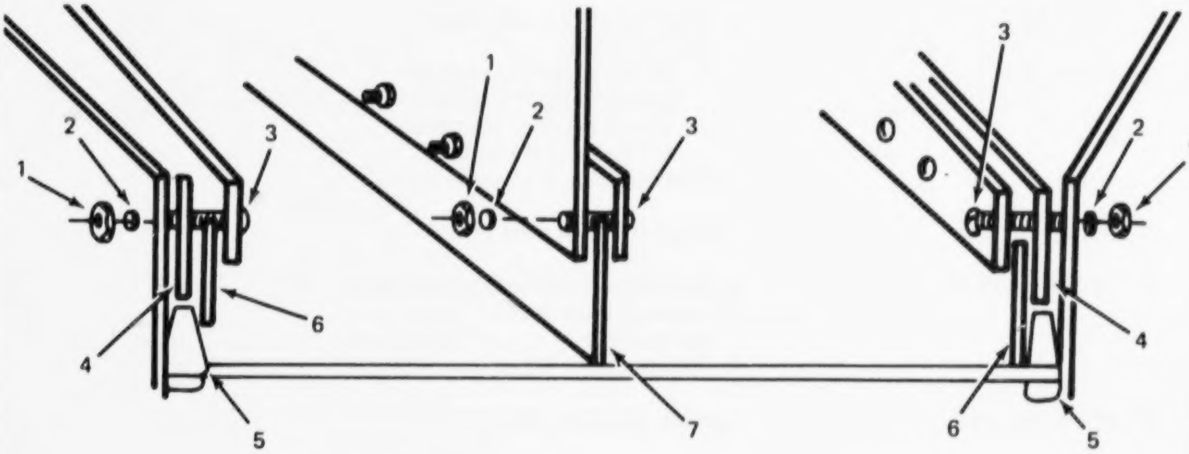
7-9. RUBBER GUIDES MAINTENANCE (Continued).

NOTE

Guide maintenance requires two mechanics, one on each side of the bin wall. For routine adjustment, go directly to procedure C (step 5). Use procedures A and B only if you need to replace a damaged guide.

A. REMOVAL.

LOCATION/ITEM	ACTION	REMARKS
1. Thirteen nuts (1) and washers (2).	Remove.	
2. Thirteen bolts (3), damaged guides (4) and (7) and three guide retainers (6).	Remove from bolts (3).	Thirteen bolts are welded to retainer.



LEGEND:

1. NUT (13)
2. WASHER (13)
3. BOLT (13)
4. GUIDE (5)
5. VANNER EDGE
6. GUIDE RETAINER (3)
7. GUIDE

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7-9. RUBBER GUIDES MAINTENANCE (Continued).

B. INSTALLATION.

LOCATION/ITEM	ACTION	REMARKS
3. New guides (4 and 7) three guide retainers (6), and thirteen bolts (3).	Set in place. Push screws on retainer through holes in bin wall.	
4. Thirteen washers (2) and nuts (1).	Install but do not tighten.	

CAUTION

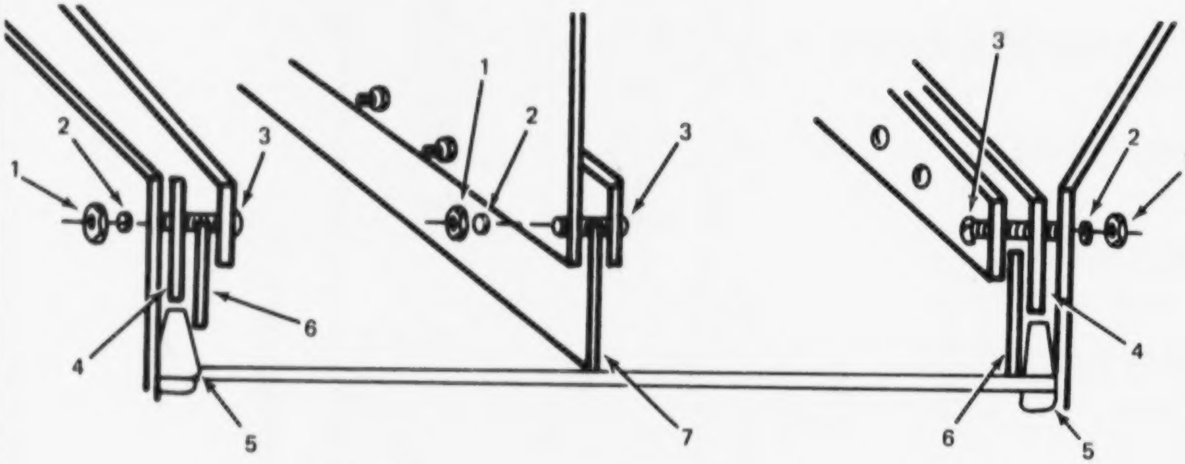
Adjust guides to touch belt lightly. If they are too high sand and stone will fall out. If they are pressed down too hard, guides and belt will be damaged.

C. ADJUSTMENT.

LOCATION/ITEM	ACTION	REMARKS
5. Sand bin wall.	Loosen thirteen nuts (1).	If you replaced a guide, nuts will already be loose.
6. Five sand bin guides (4) and three guide retainers (6).	a. Starting at one end, tap guides down. 1. Outer guide (4) rests on vanner edge (5) of belt. 2. Guide retainer (6) rests on flat surface of belt. b. Tighten nuts (1) as you work.	
7. Center divider.	Loosen thirteen nuts (1).	
8. Center guide (7).	a. Starting at one end, tap guide down. Guide should rest on belt surface. b. Tighten nuts (1) as you work.	
9. Stone bin wall.	Loosen thirteen nuts (1).	
10. Stone bin edge guide (4) and guide retainer (6).	a. Starting at one end, tap guides down. 1. Adjust outer guide (4) to vanner edge (5). 2. Adjust guide retainer (6) to belt surface. b. Tighten nuts (1) as you go.	

7-9. RUBBER GUIDES MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS



LEGEND:

1. NUT (13)
2. WASHER (13)
3. BOLT (13)
4. GUIDE (5)
5. VANNER EDGE
6. GUIDE RETAINER (3)
7. GUIDE

TA 076301

AGGREGATE SUPPLY SYSTEM.

7-10. METAL GUIDES AND SAND DEFLECTOR MAINTENANCE.

THIS TASK COVERS: (APPROXIMATE TIME REQUIRED FOLLOWS TASK DESCRIPTION.)

a. Removal.	(5)
b. Installation.	(5)
c. Adjustment.	(10)
	20 Minutes Total.

INITIAL SETUP

APPLICABLE CONFIGURATIONS

M919.

TEST EQUIPMENT

None.

SPECIAL TOOLS

None.

MATERIALS/PARTS (P/N)

None.

EQUIPMENT CONDITION PARAGRAPH	CONDITION DESCRIPTION
None.	None.

PERSONNEL REQUIRED

One (MOS-62B20).

REFERENCES (TM)

TM 5-3895-372-10.
TM 5-3895-372-20P.
TM 9-2320-273-10.

TROUBLESHOOTING REFERENCES

Table 7-1.

SPECIAL ENVIRONMENTAL CONDITIONS

Vehicle Parked on Level Ground.

GENERAL SAFETY INSTRUCTIONS

Engine Off.
Transmission in Neutral.
Parking Brake Set.

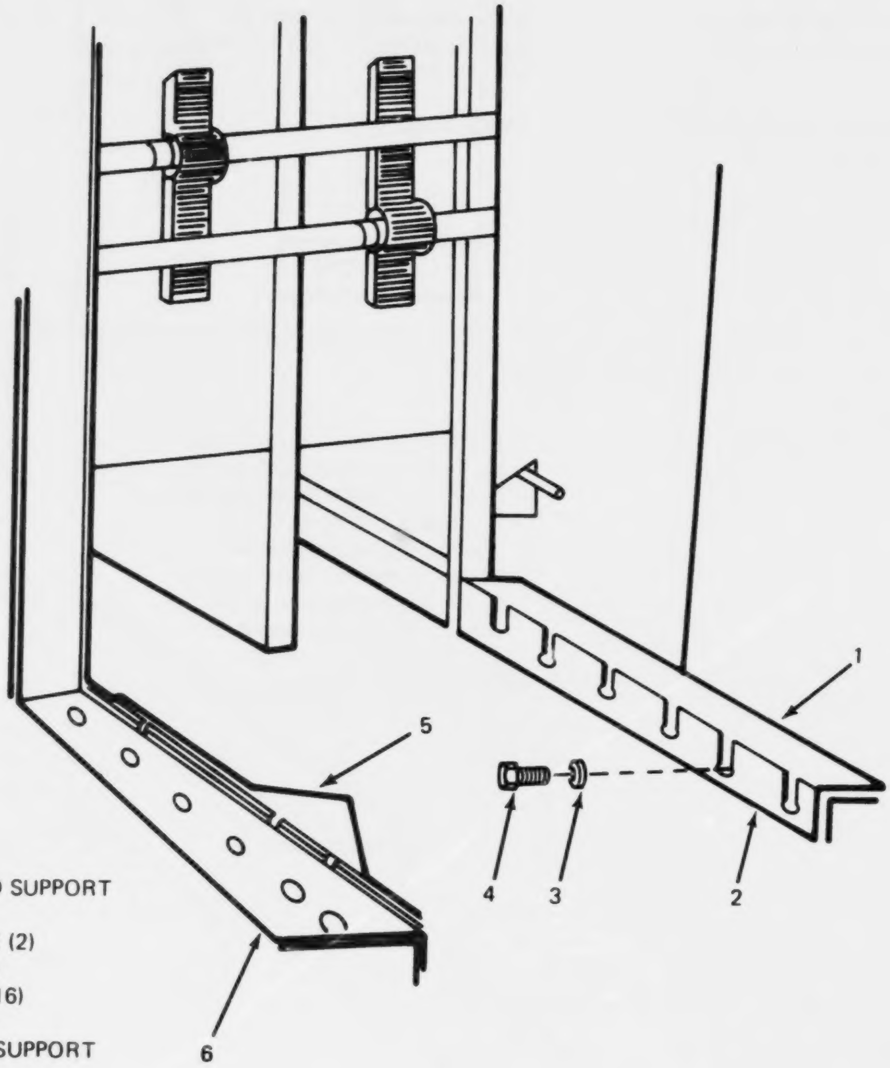
AGGREGATE SUPPLY SYSTEM.

7-10. METAL GUIDES AND SAND DEFLECTOR MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS

NOTE

For routine adjustment, go directly to procedure C (step 4). Use procedures A and B only if you need to replace a damaged guide.



LEGEND:

1. RIGHT HAND SUPPORT GUIDE
2. REAR GUIDE (2)
3. WASHER (16)
4. CAPSCREW (16)
5. DEFLECTOR
6. LEFT HAND SUPPORT GUIDE

TA 076302

AGGREGATE SUPPLY SYSTEM.

7-10. METAL GUIDES AND SAND DEFLECTOR MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS
A. REMOVAL.		
1. Sixteen capscrews (4) and washers (3).	Unscrew and remove two rear guides (2) and deflector (5).	
B. INSTALLATION.		
2. Two rear guides (2) and deflector (5).	Aline slots with holes in RH support guide (1) and LH support guide (6).	Slots should face upward.
3. Sixteen capscrews (4) and washers (3).	Screw in and tighten.	
C. ADJUSTMENT.		

CAUTION

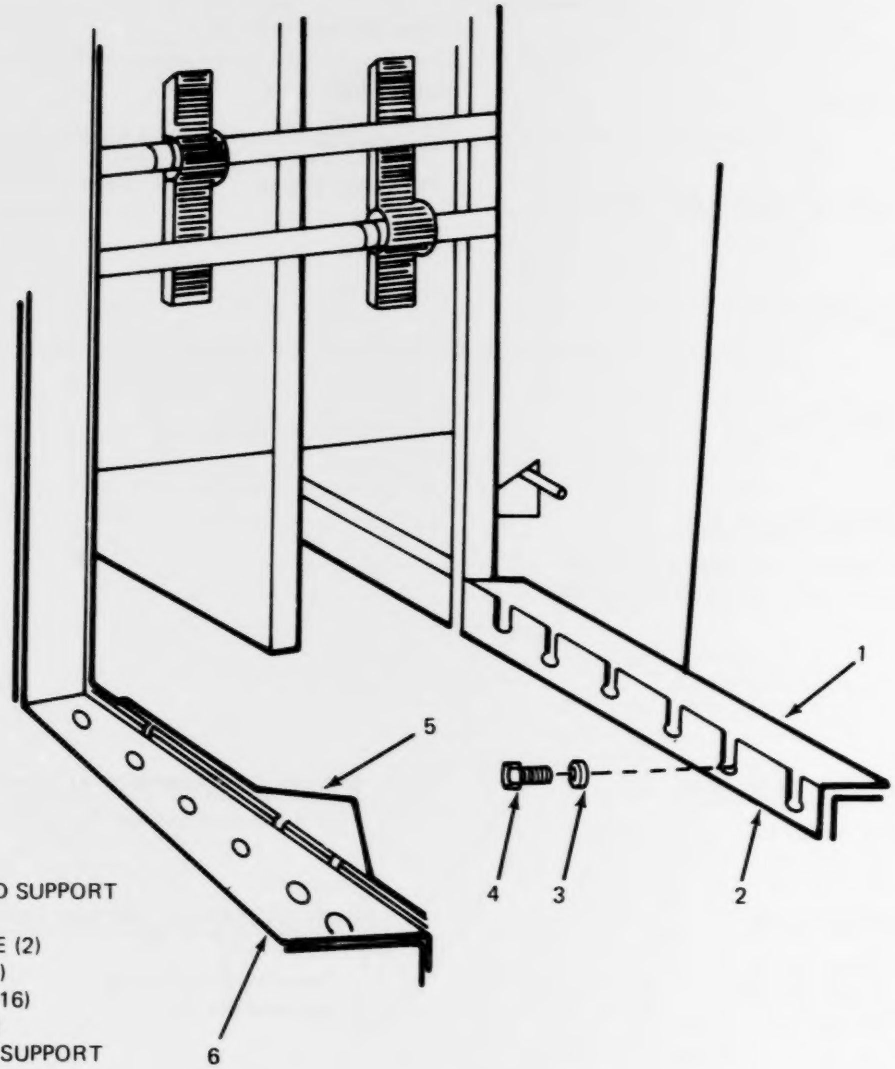
Adjust guides carefully. If they are too high, sand and stones will spill. If they are too low, they will damage the belt.

LOCATION/ITEM	ACTION	REMARKS
4. Two rear guides (2) and deflector (5).	a. Place 1/16 in. (1.6 mm) flat washers between guides and belt. Also place them between deflector and belt. b. Tap guides and deflector down to rest on flatwashers. Work from one end to the other. Check capscrews (4) for tightness as you go. c. Remove flat washers.	

AGGREGATE SUPPLY SYSTEM.

7-10. METAL AND SAND DEFLECTOR MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS



LEGEND:

1. RIGHT HAND SUPPORT GUIDE
2. REAR GUIDE (2)
3. WASHER (16)
4. CAPSCREW (16)
5. DEFLECTOR
6. LEFT HAND SUPPORT GUIDE

TA 076303

AGGREGATE SUPPLY SYSTEM.

7-11. FRONT WIPERS MAINTENANCE.

THIS TASK COVERS: (APPROXIMATE TIME REQUIRED FOLLOWS TASK DESCRIPTION.)

a. Inspection.	(5)
b. Removal.	(5)
c. Installation.	(5)
d. Adjustment.	(5)
	20 Minutes Total.

INITIAL SETUP

APPLICABLE CONFIGURATIONS

M919.

TEST EQUIPMENT

None.

SPECIAL TOOLS

None.

MATERIALS/PARTS (P/N)

Sand Belt Wiper, NP2887002 (50663).
Stone Belt Wiper, NP2887000 (50663)

EQUIPMENT CONDITION PARAGRAPH	CONDITION DESCRIPTION
TM 5-3895-372-10.	Aggregate Bins Empty. Front Screens Open.

PERSONNEL REQUIRED

Two (MOS-62B20).

REFERENCES (TM)

TM 5-3895-372-10.
TM 5-3895-372-20P.
TM 9-2320-273-10.

TROUBLESHOOTING REFERENCES

Table 7-1.

SPECIAL ENVIRONMENTAL CONDITIONS

Vehicle Parked on Level Ground.

GENERAL SAFETY INSTRUCTIONS

Engine Off.
Transmission in Neutral.
Parking Brake Set.

7-11. FRONT WIPERS MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS

A. INSPECTION.

LOCATION/ITEM	ACTION	REMARKS
1. Stone belt wiper (3) and sand belt wiper (6).	Check for:	
	a. Cracks.	Replace.
	b. Tears.	Replace.
	c. Improper adjustment.	Adjust.

NOTE

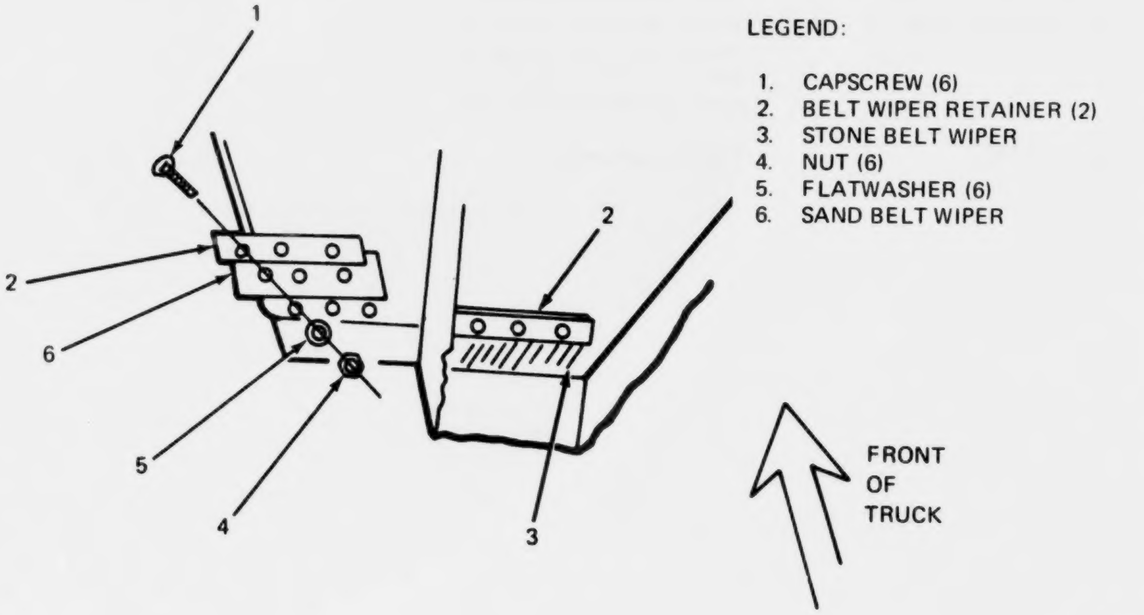
If wiper seals are to be replaced, complete steps B, C and D. For horizontal adjustment only, go to step D.

B. REMOVAL.

NOTE

Front seal replacement requires two mechanics; one inside bin and one outside.

LOCATION/ITEM	ACTION	REMARKS
2. Six nuts (4), flat washers (5), and capscrews (1).	Unscrew and remove.	



LEGEND:

1. CAPSCREW (6)
2. BELT WIPER RETAINER (2)
3. STONE BELT WIPER
4. NUT (6)
5. FLATWASHER (6)
6. SAND BELT WIPER

TA 076304

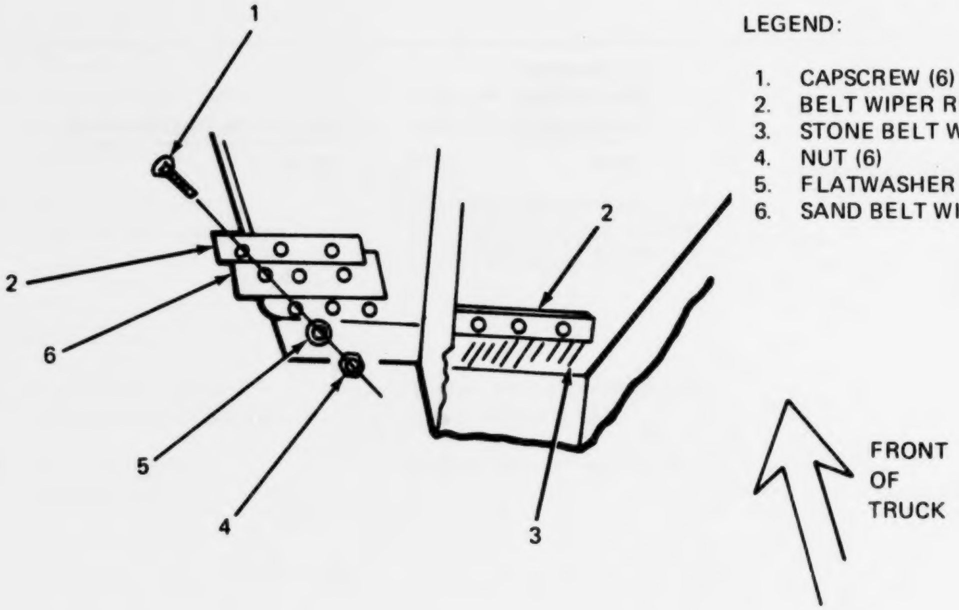
AGGREGATE SUPPLY SYSTEM.

7-11. FRONT WIPERS MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS
B. REMOVAL (Continued).		
3. Belt wiper retainers (2).	Remove.	
4. Stone belt wiper (3) and sand belt wiper (6).	Remove.	
C. INSTALLATION.		
5. New stone belt wiper (3) and sand belt wiper (6).	Aline bolt holes in retainers (2), stone belt wiper (3), sand belt wiper (6), and bin wall.	
6. Six nuts (4), flat washers (5) and capscrews (1).	Install.	Do not tighten.
D. ADJUSTMENT.		
7. Six nuts (4).	Loosen.	If seal was replaced, nuts will already be loose.
8. Stone belt wiper (3) and sand belt wiper (6).	Adjust horizontally between sand and stone bin divider and sand or stone bin wall. Wiper should ride against conveyor belt.	
9. Six nuts (4).	Tighten securely.	

7-11. FRONT WIPERS MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS



LEGEND:

1. CAPSCREW (6)
2. BELT WIPER RETAINER (2)
3. STONE BELT WIPER
4. NUT (6)
5. FLATWASHER (6)
6. SAND BELT WIPER

TA 076305

AGGREGATE SUPPLY SYSTEM.

7-12. REAR WIPER MAINTENANCE.

THIS TASK COVERS: (APPROXIMATE TIME REQUIRED FOLLOWS TASK DESCRIPTION.)

a. Removal.	(5)
b. Installation.	(5)
c. Adjustment.	(5)
	15 Minutes Total.

INITIAL SETUP

EQUIPMENT CONDITION PARAGRAPH	CONDITION DESCRIPTION
None.	None.

APPLICABLE CONFIGURATIONS

M919.

TEST EQUIPMENT

None.

SPECIAL TOOLS

None.

MATERIALS/PARTS (P/N)

None.

PERSONNEL REQUIRED

One (MOS-62B20).

REFERENCES (TM)

TM 5-3895-372-10.
TM 5-3895-372-20P.
TM 9-2320-273-10.

TROUBLESHOOTING REFERENCES

Table 7-1.

SPECIAL ENVIRONMENTAL CONDITIONS

Vehicle Parked on Level Ground.

GENERAL SAFETY INSTRUCTIONS

Engine Off.
Transmission in Neutral.
Parking Brake Set.

7-12. REAR WIPER MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS

NOTE

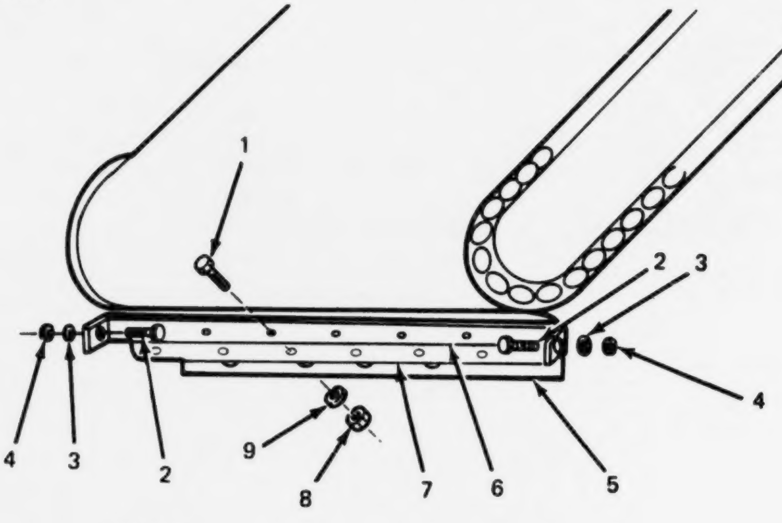
For routine adjustment, go directly to procedure C (step 7). Use procedures A and B only if you need to replace a damaged belt wiper.

A. REMOVAL.

LOCATION/ITEM	ACTION	REMARKS
1. Two nuts (4), lockwashers (3), and capscrews (2).	Remove. Remove belt wiper assembly from unit.	Capscrew on each side.
2. Six nuts (8), and washers and capscrews (1).	Remove. Separate belt wiper (6) and belt wiper rubber (7) from belt wiper retainer (5).	

B. INSTALLATION.

LOCATION/ITEM	ACTION	REMARKS
3. Belt wiper rubber (7) and belt wiper bar (6).	Install over screws on belt wiper retainer (5).	
4. Six nuts (8) and washers (9).	Install but do not tighten.	



LEGEND:

1. CAPSCREW (6)
2. CAPSCREW (2)
3. LOCKWASHER (2)
4. NUT (2)
5. BELT WIPER RETAINER
6. BELT WIPER BAR
7. BELT WIPER RUBBER
8. NUT (6)
9. LOCKWASHER (6)

TA 076306

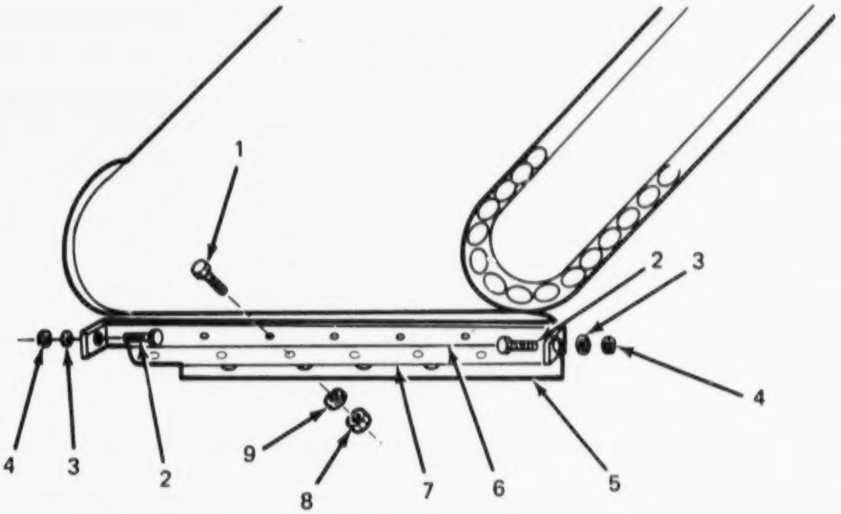
7-12. REAR WIPER MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS
B. INSTALLATION (Continued).		
5. Wiper assembly.	Set in place.	
6. Two nuts (4), lockwashers (3) and capscrews (2).	Install and tighten.	
C. ADJUSTMENT.		
7. Six capscrews (1).	Loosen.	If you replaced belt wiper rubber (7), capscrews (1) will already be loose.
8. Belt wiper rubber (7).	Drive firmly against belt.	If concrete sticks to belt bottom when equipment is operated, wiper is too loose.
9. Six capscrews (1).	Tighten.	

AGGREGATE SUPPLY SYSTEM.

7-12. REAR WIPER MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS



LEGEND:

1. CAPSCREW (6)
2. CAPSCREW (2)
3. LOCKWASHER (2)
4. NUT (2)
5. BELT WIPER RETAINER
6. BELT WIPER BAR
7. BELT WIPER RUBBER
8. NUT (6)
9. LOCKWASHER (6)

TA 076307

AGGREGATE SUPPLY SYSTEM.

7-13. CONVEYOR BELT ADJUSTMENT.

THIS TASK COVERS: (APPROXIMATE TIME REQUIRED FOLLOWS TASK DESCRIPTION.)

a. Adjustment of Belt.	(5)
b. Even Tension Check.	(5)
	10 Minutes Total.

INITIAL SETUP

APPLICABLE CONFIGURATIONS

M919.

TEST EQUIPMENT

None.

SPECIAL TOOLS

None.

MATERIALS/PARTS (P/N)

None.

EQUIPMENT CONDITION PARAGRAPH	CONDITION DESCRIPTION
None.	None.

PERSONNEL REQUIRED

One (MOS-62B20).

REFERENCES (TM)

TM 5-3895-372-10.
TM 5-3895-372-20P.
TM 9-2320-273-10.

TROUBLESHOOTING REFERENCES

Table 7-1.

SPECIAL ENVIRONMENTAL CONDITIONS

Vehicle Parked on Level Ground.

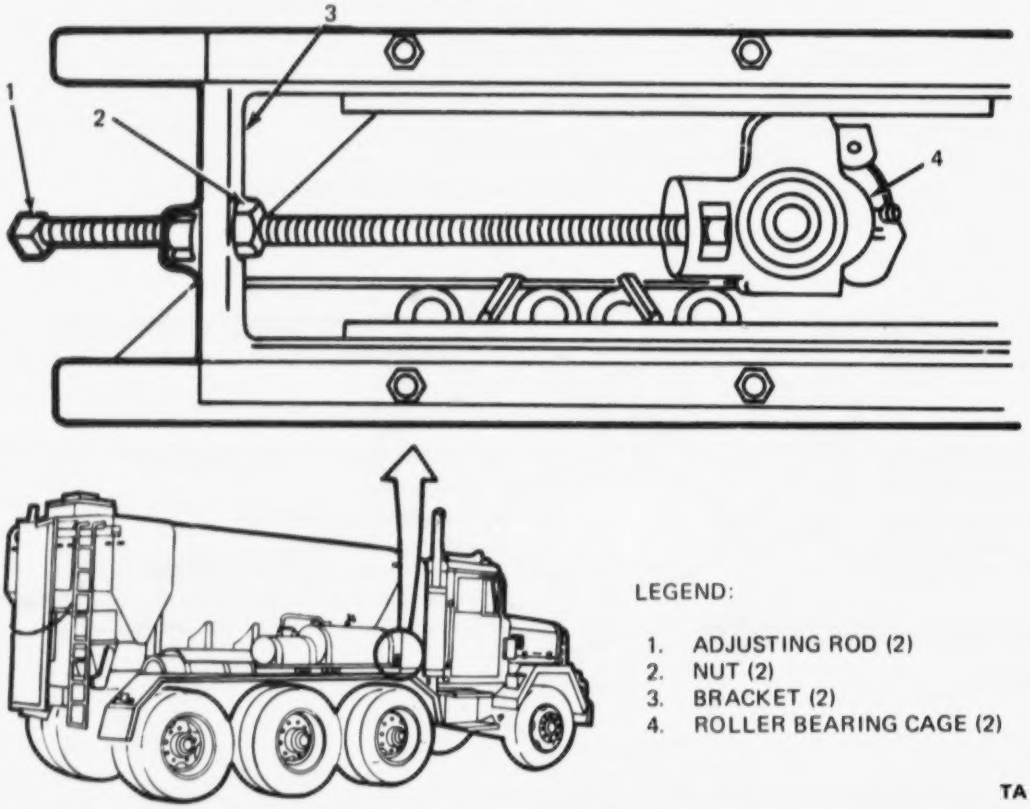
GENERAL SAFETY INSTRUCTIONS

Engine Off.
Transmission in Neutral.
Parking Brake Set.

AGGREGATE SUPPLY SYSTEM.

7-13. CONVEYOR BELT ADJUSTMENT (Continued).

LOCATION/ITEM	ACTION	REMARKS
A. ADJUSTMENT OF BELT.		
1. Two nuts (2).	Loosen.	One on each side of mixer.
2. Two adjusting rods (1).	Tighten to 20 lb-ft (27 N·m).	
B. EVEN TENSION CHECK.		
3. Two brackets (3) and roller bearing cages (4).	Use ruler to measure distances between bracket and roller bearing cage on each side. If there is more than 1/4 in. (0.6 cm) difference between distances, loosen bolts. Readjust until distances are within 1/4 in. (0.6 cm) of each other.	
4. Two nuts (2).	Tighten securely. Hold adjusting rod (1) to prevent turning while tightening.	One nut (2) on each side of mixer.



LEGEND:

1. ADJUSTING ROD (2)
2. NUT (2)
3. BRACKET (2)
4. ROLLER BEARING CAGE (2)

TA 076308

AGGREGATE SUPPLY SYSTEM.

7-14. CONVEYOR BELT REPLACEMENT.

THIS TASK COVERS: (APPROXIMATE TIME REQUIRED FOLLOWS TASK DESCRIPTION.)

a. Removal.	(45)
b. Installation.	(45)
c. Operational Check.	(5)
d. Removal of Broken Belt.	(45)
	140 Minutes Total.

INITIAL SETUP

EQUIPMENT CONDITION PARAGRAPH	CONDITION DESCRIPTION
9-9A.	Mix Auger Assembly Removed.
TM 5-3895-372-10.	Sand and Stone Gates Open.
TM 5-3895-372-10.	Cement Bin Clutch Disengaged.
TM 5-3895-372-10.	Admix Bin Clutch Disengaged.
7-13A.	Belt Adjustment.

APPLICABLE CONFIGURATIONS

M919.

TEST EQUIPMENT

None.

SPECIAL TOOLS

None.

MATERIALS/PARTS (P/N)

1 1/4 O.D. x 4 ft. Long Pipe.
50 ft. Rope (High Strength).
Mechanics Wire.
Towing Vehicle.
1/2 in. x 1 3/4 in. Bolts.
1/2 in. Nuts.
1/2 in. Flat Washers.
Fire Extinguisher.
Acetylene Torch.
Razor Knife.
Conveyor Belt Assembly, NS3817007 (50663).

PERSONNEL REQUIRED

Three (MOS-62B20).

SPECIAL ENVIRONMENTAL CONDITIONS

Vehicle Parked on Level Ground.

REFERENCES (TM)

LO 5-3895-372-12.
TM 5-3895-372-10.
TM 5-3895-372-20P.
TM 9-2320-273-10.

GENERAL SAFETY INSTRUCTIONS

Engine Off.
Transmission in Neutral.
Parking Brake Set.
Be Extremely Careful to Avoid Moving Parts.
Exhaust System Components Can Cause Severe Burns.
Carbon Monoxide Poisoning Can Be Deadly.

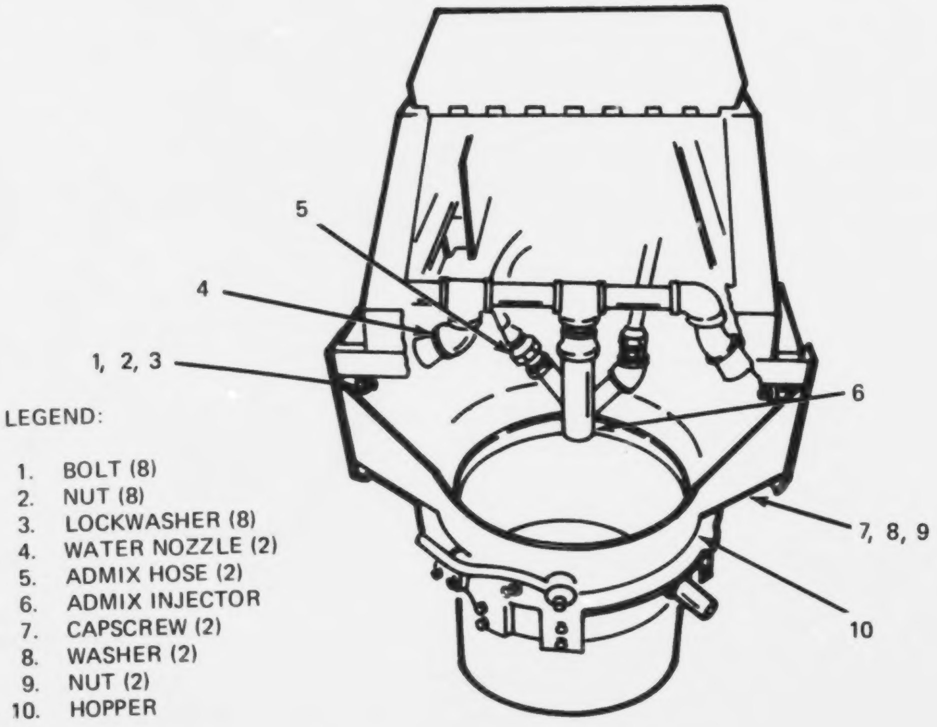
TROUBLESHOOTING REFERENCES

Table 7-1.

AGGREGATE SUPPLY SYSTEM.

7-14. CONVEYOR BELT REPLACEMENT (Continued).

LOCATION/ITEM	ACTION	REMARKS
A. REMOVAL.		
1. Eight bolts (1), nuts (2) and lockwashers (3).	Remove.	
2. Two capscrews (7), washers (8) and nuts (9).	Remove.	
3. Hopper (10).	Remove.	Remove front conveyor door and safety guard door simultaneously.
4. Two admix hoses (5).	Remove.	Tag for identification.
5. Admix injector (6).	Remove.	
6. Two water nozzles (4).	Remove.	
7. Mixer body.	Start up (see TM 9-2320-273-10 and TM 5-3895-372-10).	Run engine at idle speed.



LEGEND:

1. BOLT (8)
2. NUT (8)
3. LOCKWASHER (8)
4. WATER NOZZLE (2)
5. ADMIX HOSE (2)
6. ADMIX INJECTOR
7. CAPSCREW (2)
8. WASHER (2)
9. NUT (2)
10. HOPPER

TA 076309

AGGREGATE SUPPLY SYSTEM.

7-14. CONVEYOR BELT REPLACEMENT (Continued).

LOCATION/ITEM	ACTION	REMARKS
A. REMOVAL (Continued).		

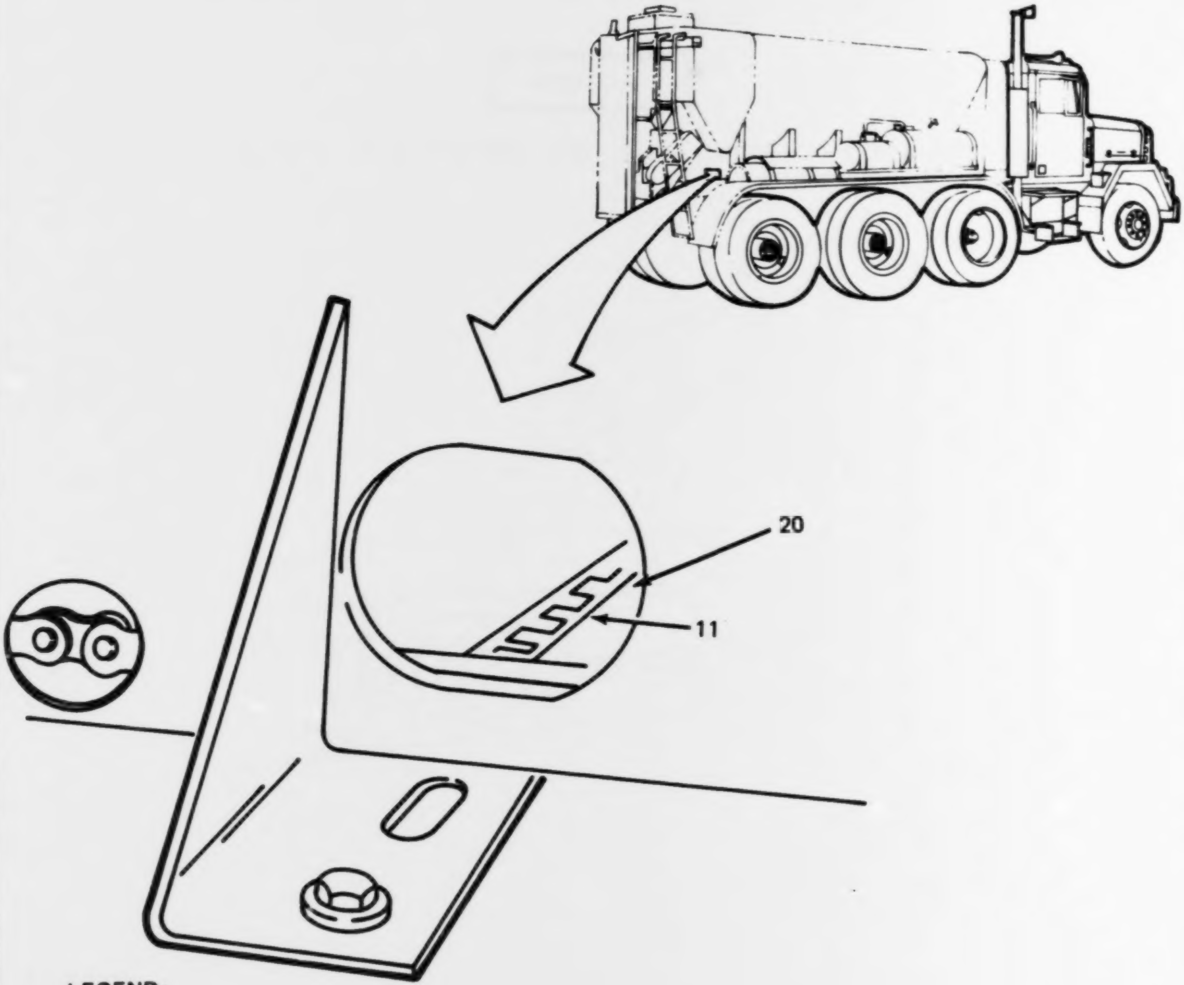
NOTE

Before performing step 8, remove oval inspection window cover.

LOCATION/ITEM	ACTION	REMARKS
8. Belt lacer (11).	Run engine at idle speed. Engage the main clutch and roll the conveyor belt (20) around until the belt lacer (11) is visible in the oval inspection window at the rear of the conveyor frame.	
9. Mixer body.	Disengage clutch and turn off engine (see TM 9-2320-273-10 and TM 5-3895-372-10).	

7-14. CONVEYOR BELT REPLACEMENT (Continued).

LOCATION/ITEM	ACTION	REMARKS



LEGEND:

11. BELT LACER
20. CONVEYOR BELT

TA 076310

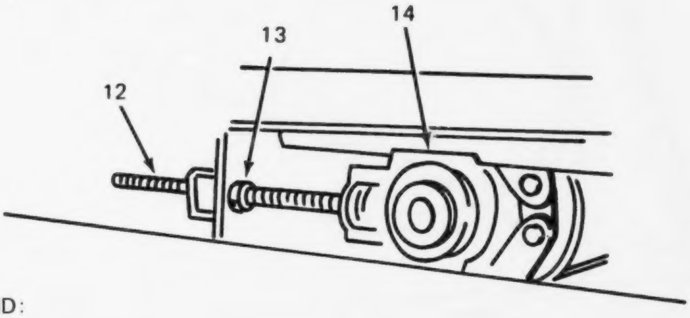
AGGREGATE SUPPLY SYSTEM.

7-14. CONVEYOR BELT REPLACEMENT (Continued).

LOCATION/ITEM	ACTION	REMARKS
A. REMOVAL (Continued).		
10. Two locknuts (13).	Loosen approximately 1-1/2 in. (38 mm).	Both sides of vehicle.
11. Two belt tensioning devices (14).	Loosen bolts (12) until locknuts (13) meet flanges.	Lubricate bolts and bearing slides for easy operation.

CAUTION

Do not turn bolts (12) farther than 1-1/2 in. (38 mm), or the sprockets will catch in the cross angles.



LEGEND:

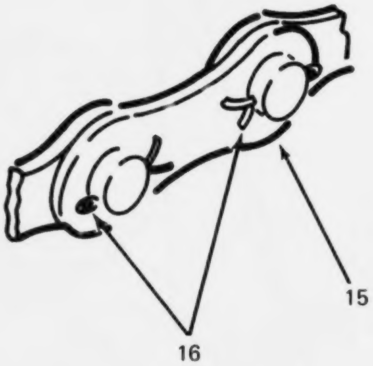
12. BOLT (2)
13. LOCKNUT (2)
14. BELT TENSIONING DEVICE (2)

TA 076311

AGGREGATE SUPPLY SYSTEM.

7-14. CONVEYOR BELT REPLACEMENT (Continued).

LOCATION/ITEM	ACTION	REMARKS
A. REMOVAL (Continued).		
12. Four cotter pins (16).	Remove from back plates of the two master links (15).	Underside rear of conveyor. Both sides of conveyor.
13. Two master links (15).	Remove.	Through oval openings in frame.



LEGEND:

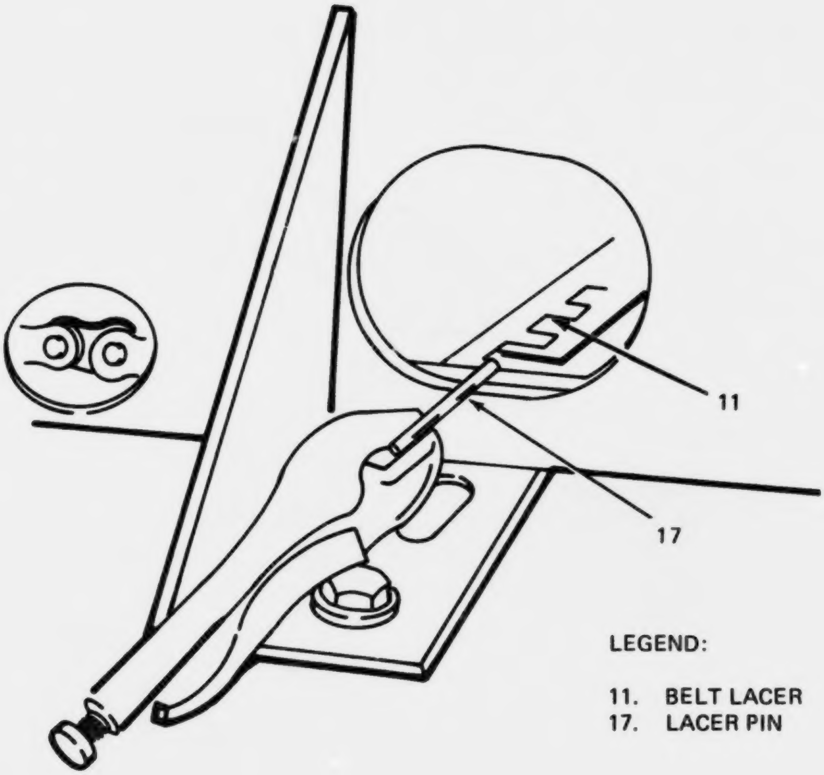
15. MASTER LINK (2)
16. COTTER PIN (4)

TA 076312

AGGREGATE SUPPLY SYSTEM.

7-14. CONVEYOR BELT REPLACEMENT (Continued).

LOCATION/ITEM	ACTION	REMARKS
A. REMOVAL (Continued).		
14. Lacer pin (17).	Remove from belt lacer (11).	Use vise grips to work it loose.



LEGEND:

11. BELT LACER
17. LACER PIN

TA 076313

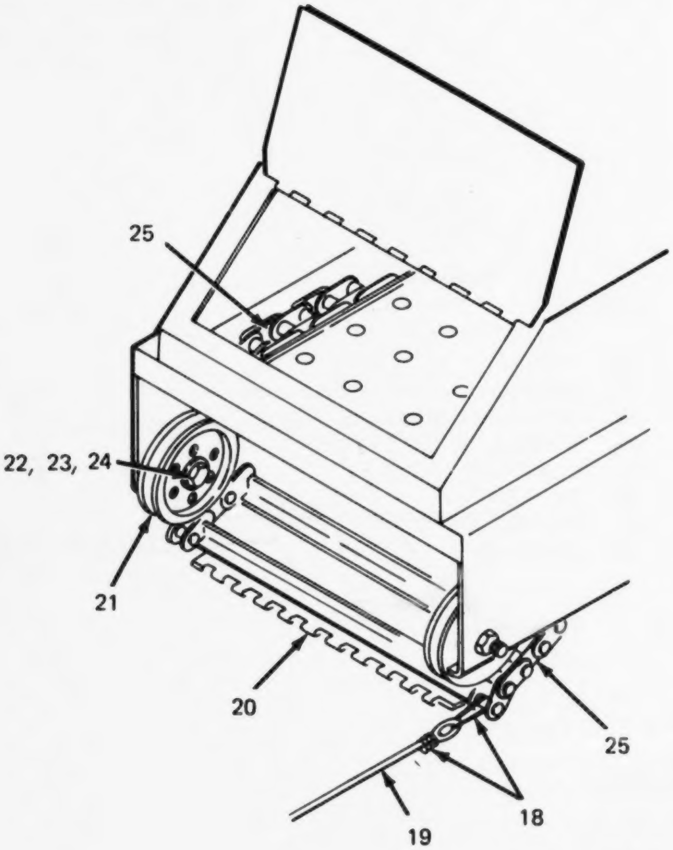
AGGREGATE SUPPLY SYSTEM.

7-14. CONVEYOR BELT REPLACEMENT (Continued).

LOCATION/ITEM	ACTION	REMARKS
A. REMOVAL (Continued).		
15. Two winch line pulleys (21).	a. Remove by pulling pins. b. Mount to lower rear frame holes with two bolts (23), nuts (24) and twelve flat washers (22).	Use four flatwashers (22) on each side for spacers between the pulley and frame.
16. Conveyor belt (20).	Let the end down over the winch line pulleys (21).	
17. Two ropes (19) and four wires (18).	Secure to end chain link at either side of conveyor belt (20) and lay ropes (19) out parallel behind vehicle.	

LEGEND:

18. WIRE (4)
19. ROPE (2)
20. CONVEYOR BELT
21. WINCH LINE PULLEY (2)
22. FLATWASHER (12)
23. BOLT (2)
24. NUT (2)
25. CHAIN (2)



TA 076314

AGGREGATE SUPPLY SYSTEM.

7-14. CONVEYOR BELT REPLACEMENT (Continued).

A. REMOVAL (Continued).

LOCATION/ITEM	ACTION	REMARKS
18. Mixer body.	Start up (see TM 9-2320-273-10 and TM 5-3895-372-10).	Run engine at idle speed.

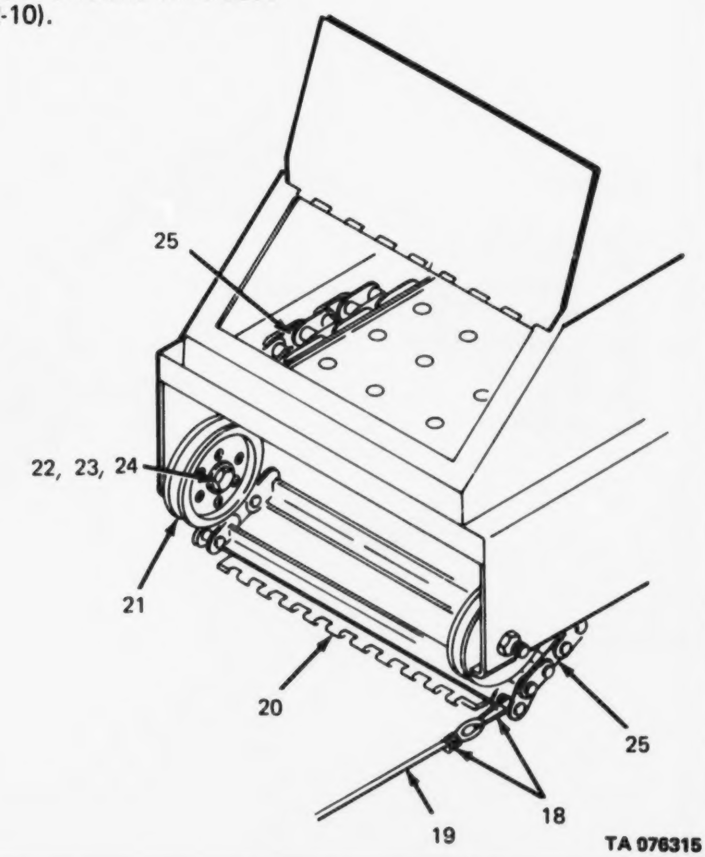
CAUTION

Run the engine at idle speed and run the belt out slowly. Shut off immediately if the conveyor belt (20) jams.

LOCATION/ITEM	ACTION	REMARKS
19. Main clutch.	Engage and run the conveyor belt (20) out.	Have an assistant hold the free end as it's run out.
20. Conveyor belt (20).	When completely removed, disengage main clutch and shut down mixer body (see TM 9-2320-273-10 and TM 5-3895-372-10).	

LEGEND:

18. WIRE (4)
19. ROPE (2)
20. CONVEYOR BELT
21. WINCH LINE PULLEY (2)
22. FLATWASHER (12)
23. BOLT (2)
24. NUT (2)
25. CHAIN (2)



AGGREGATE SUPPLY SYSTEM.

7-14. CONVEYOR BELT REPLACEMENT (Continued).

LOCATION/ITEM	ACTION	REMARKS

B. INSTALLATION.

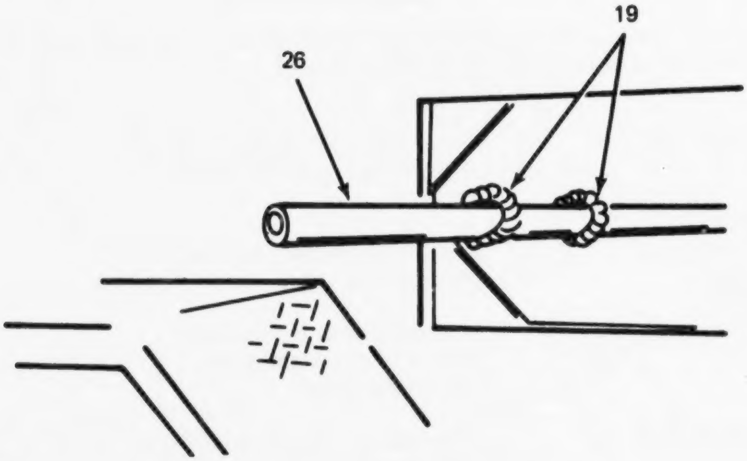
NOTE

If new conveyor belt (20) is being installed, transfer wires (18) and ropes (19) to new conveyor belt and chains (25).

LOCATION/ITEM	ACTION	REMARKS
21. Pipe (26).	Slacken ropes (19) and insert pipe (26) through frame and ropes.	Located under water tank.

CAUTION

Be sure rope is in upper chain rail for ease of installation.



LEGEND:

19. ROPE (2)
26. PIPE

TA 076316

AGGREGATE SUPPLY SYSTEM.

7-14. CONVEYOR BELT REPLACEMENT (Continued).

LOCATION/ITEM	ACTION	REMARKS
B. INSTALLATION (Continued).		
22. Conveyor belt (20).	Manually feed end of belt up and over winch line pulleys (21) to drive sprockets and mate link to sprocket.	Two mechanics required.
23. Towing vehicle (27).	Straddle conveyor belt (20) and attach ropes.	
24. Shear bolt (28) and nut (29).	Remove from drive gear box coupling.	
25. Towing vehicle (27).	Slowly pull the ropes (19) while inserting the conveyor belt (20) into the mixer body.	Two assistants to help feed conveyor belt (20) and keep ropes (19) from binding on sides of chain (25). One assistant required to monitor belt travel around front sprockets.

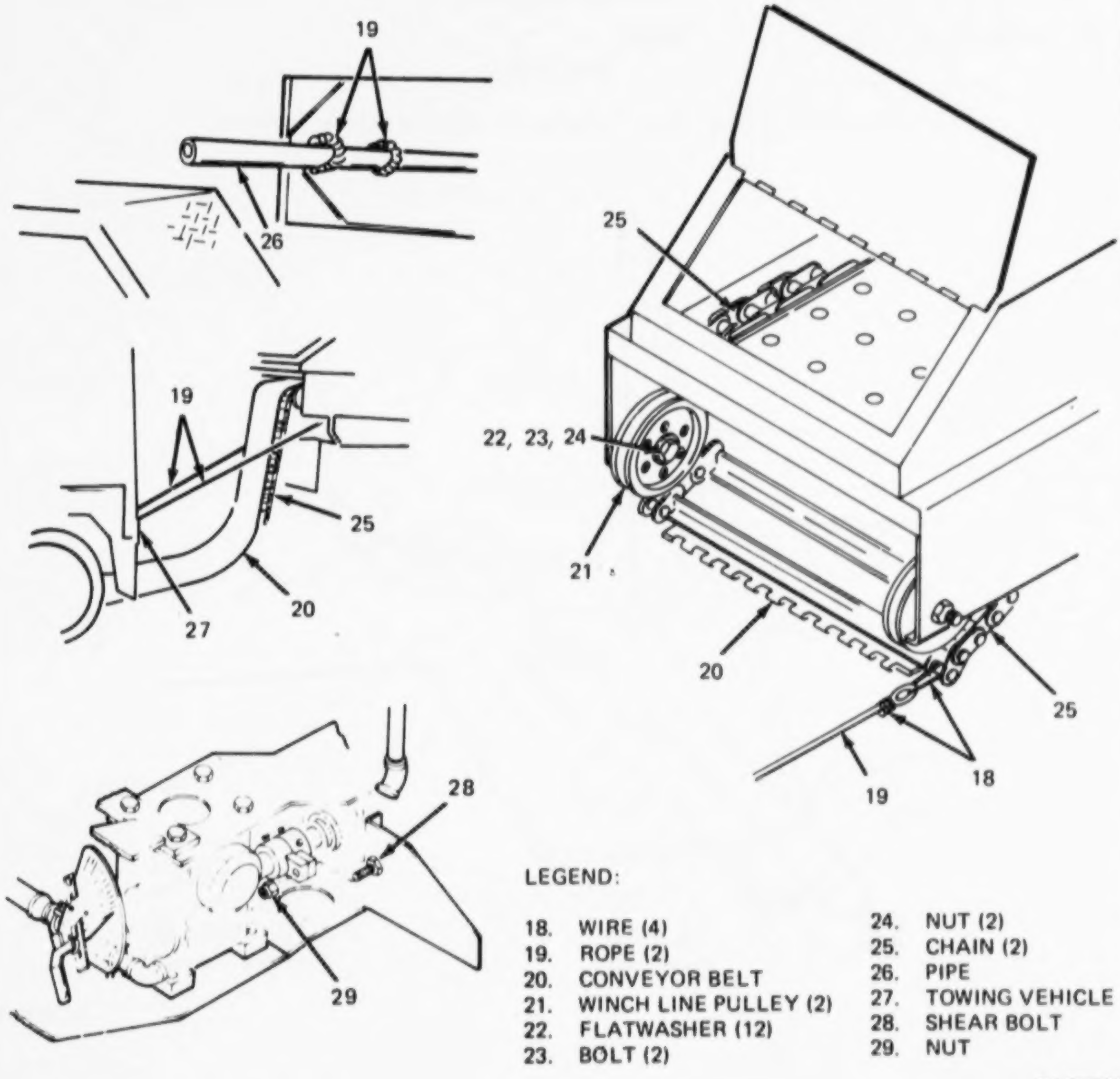
CAUTION

Proceed with special care when chains (25) are going around front sprockets to prevent binding and damage to the chains or sprockets.

LOCATION/ITEM	ACTION	REMARKS
26. Conveyor belt (20).	Allow to travel approximately eight inches past front sprockets.	
27. Pipe (26).	Slacken the ropes (19) and remove pipe (26).	
28. Conveyor belt (20).	Manually wrap belt around front sprockets and mate link to sprocket.	
29. Towing vehicle (27).	Continue pulling ropes (19). Stop the conveyor belt (20) when the belt lacer reaches the rear oval inspection window.	
30. Two ropes (19) and four wires (18).	Remove from chain links.	
31. Two bolts (23), nuts (24) and twelve washers (22).	Remove.	

7-14. CONVEYOR BELT REPLACEMENT (Continued).

LOCATION/ITEM	ACTION	REMARKS
B. INSTALLATION (Continued).		
32. Two winch line pulleys (21).	Remove. Install back in proper location securing with clevis pins and cotter pins.	



LEGEND:

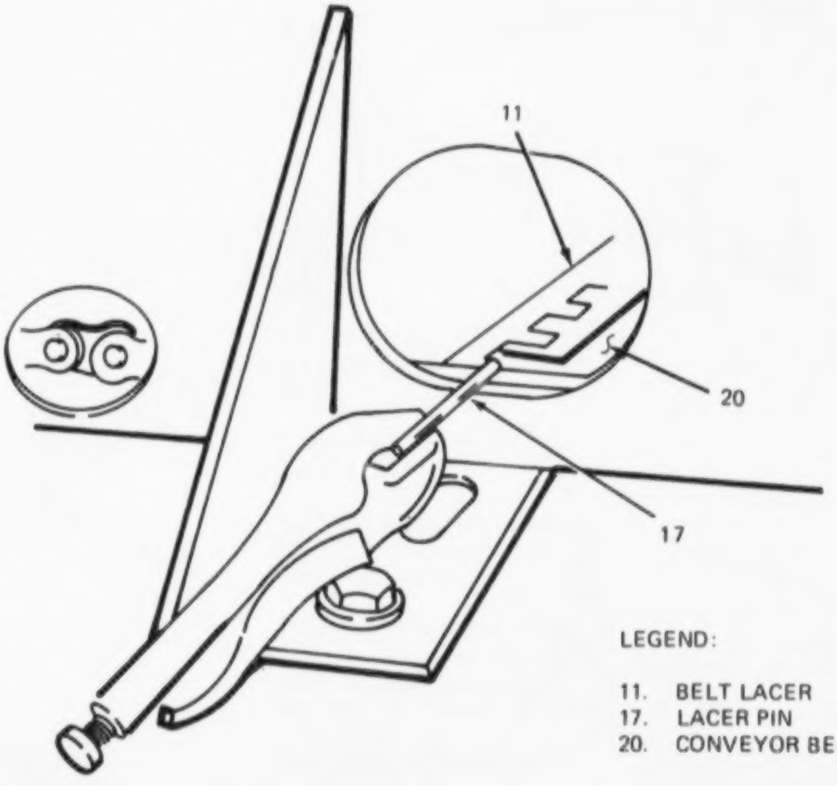
18. WIRE (4)
19. ROPE (2)
20. CONVEYOR BELT
21. WINCH LINE PULLEY (2)
22. FLATWASHER (12)
23. BOLT (2)
24. NUT (2)
25. CHAIN (2)
26. PIPE
27. TOWING VEHICLE
28. SHEAR BOLT
29. NUT

TA 076317

AGGREGATE SUPPLY SYSTEM.

7-14. CONVEYOR BELT REPLACEMENT (Continued).

LOCATION/ITEM	ACTION	REMARKS
B. INSTALLATION (Continued).		
33. Conveyor belt (20).	Push conveyor belt (20) in at bottom of front sprockets and hold in place. Wrap around rear sprockets and mate belt lacer (11).	Requires three personnel at front of truck.
34. Lacer pin (17).	Install.	



LEGEND:

11. BELT LACER
17. LACER PIN
20. CONVEYOR BELT

TA 076318

AGGREGATE SUPPLY SYSTEM.

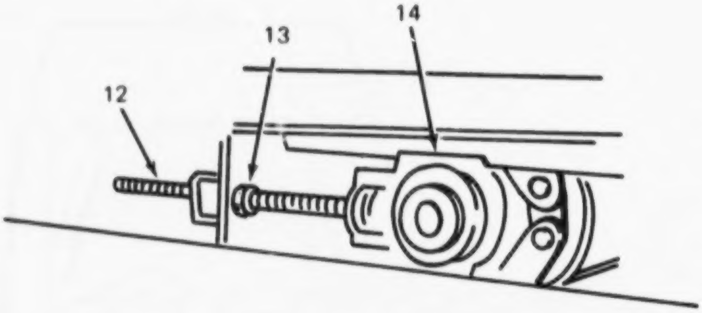
7-14. CONVEYOR BELT REPLACEMENT (Continued)

LOCATION/ITEM	ACTION	REMARKS
B. INSTALLATION (Continued).		
35. Two master links (15).	Install.	Through oval openings in frame. Side plates installed from under side of conveyor.
36. Four cotter pins (16).	Install in master link.	Under side rear of conveyor.

CAUTION

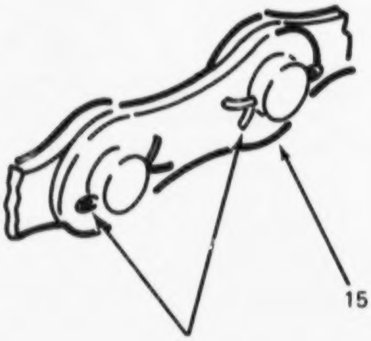
Correct tension is highly important. Tighten both bolts equally.

37. Two belt tensioning devices (14).	Refer to paragraph 7-13 for adjustment.	
38. Two locknuts (13).	Tighten securely.	



LEGEND:

12. BOLT (2)
13. LOCKNUT (2)
14. BELT TENSIONING DEVICE (2)
15. MASTER LINK (2)
16. COTTER PIN (4)

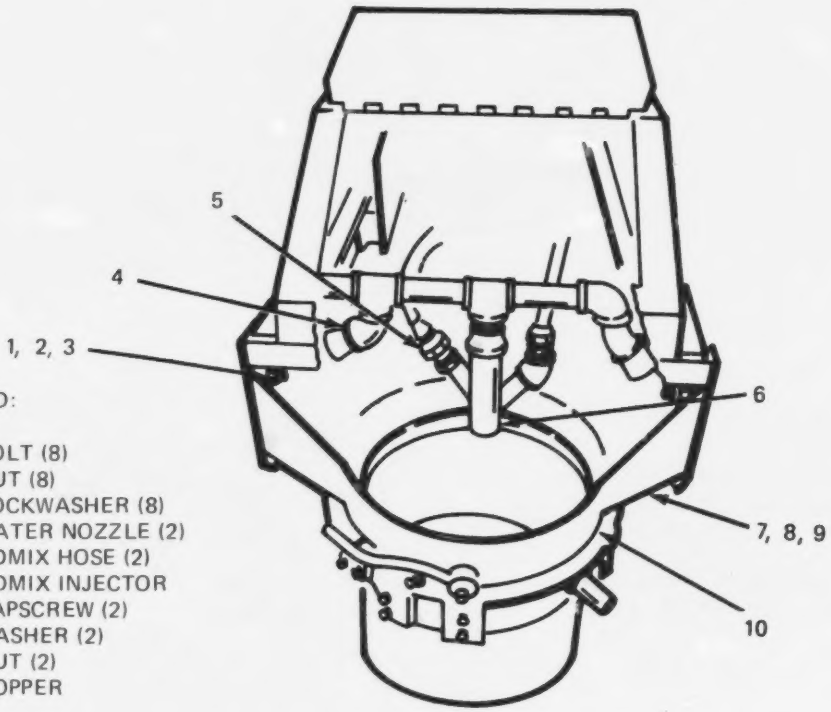


TA 076319

AGGREGATE SUPPLY SYSTEM.

7-14. CONVEYOR BELT REPLACEMENT (Continued).

LOCATION/ITEM	ACTION	REMARKS
B. INSTALLATION (Continued).		
39. Two water nozzles (4).	Install.	
40. Admix injector (6).	Install.	
41. Two admix hoses (5).	Install.	
42. Hopper (10).	Set in place.	
43. Eight bolts (1), nuts (2), and lockwashers (3).	Install and tighten securely.	Prior to installing bolts, set front conveyor door and safety guard door in place.
44. Two capscrews (7), washers (8), and nuts (9).	Install and tighten securely.	



LEGEND:

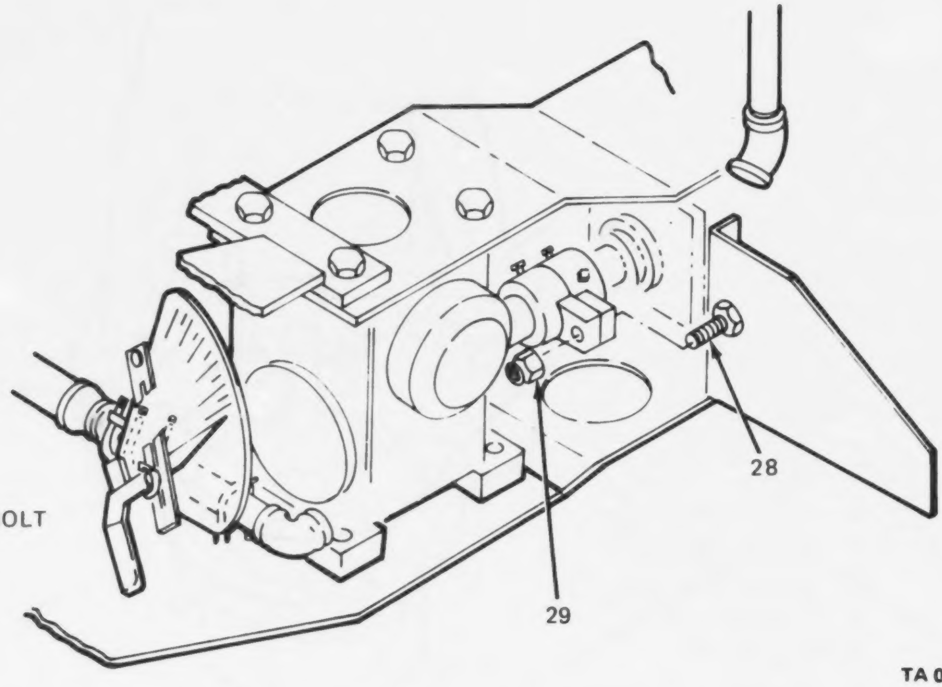
1. BOLT (8)
2. NUT (8)
3. LOCKWASHER (8)
4. WATER NOZZLE (2)
5. ADMIX HOSE (2)
6. ADMIX INJECTOR
7. CAPSCREW (2)
8. WASHER (2)
9. NUT (2)
10. HOPPER

TA 076320

AGGREGATE SUPPLY SYSTEM.

7-14. CONVEYOR BELT REPLACEMENT (Continued).

LOCATION/ITEM	ACTION	REMARKS
B. INSTALLATION (Continued).		
45. Mixer body.	Start up (see TM 9-2320-273-10 and TM 5-3895-372-10).	Let engine idle.
46. Main clutch.	Activate until drive gear box couplings line up.	
47. Shear bolt (28) and nut (29).	Install and tighten securely.	
C. OPERATIONAL CHECK.		
48. Conveyor belt (20).	Test run the conveyor belt at normal operating rpm (see TM 5-3895-372-10).	
49. Mixer body.	Shut down (see TM 9-2320-273-10 and TM 5-3895-372-10).	
50. Oval inspection cover.	Install.	



LEGEND:

28. SHEAR BOLT
29. NUT

TA 076321

AGGREGATE SUPPLY SYSTEM.

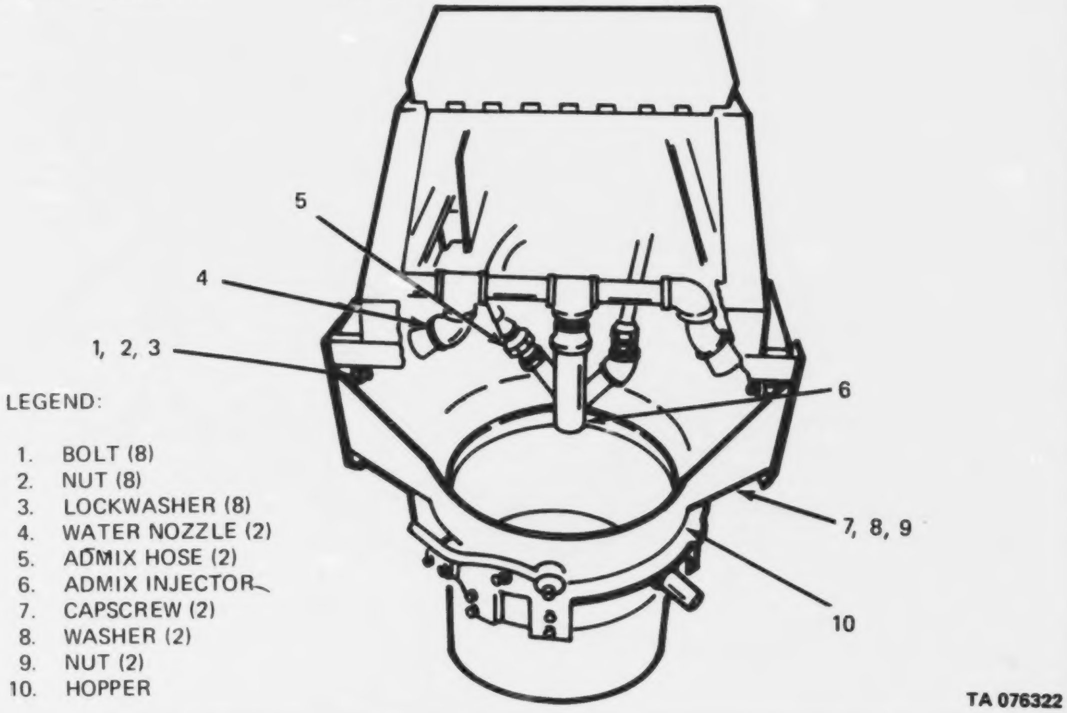
7-14. CONVEYOR BELT REPLACEMENT (Continued).

D. REMOVAL OF BROKEN BELT.

NOTE

If conveyor belt is to be removed when aggregate bins are full, shovel out materials before beginning service.

LOCATION/ITEM	ACTION	REMARKS
51. Eight bolts (1), nuts (2) and lockwashers (3).	Remove.	
52. Two capscrews (7), washers (8), and nuts (9).	Remove.	
53. Hopper (10).	Remove.	Remove front conveyor door and safety guard door simultaneously.
54. Two admix hoses (5).	Remove from admix injector (6).	
55. Admix injector (6).	Remove.	
56. Two water nozzles (4).	Remove.	



LEGEND:

1. BOLT (8)
2. NUT (8)
3. LOCKWASHER (8)
4. WATER NOZZLE (2)
5. ADMIX HOSE (2)
6. ADMIX INJECTOR
7. CAPSCREW (2)
8. WASHER (2)
9. NUT (2)
10. HOPPER

AGGREGATE SUPPLY SYSTEM.

7-14. CONVEYOR BELT REPLACEMENT (Continued).

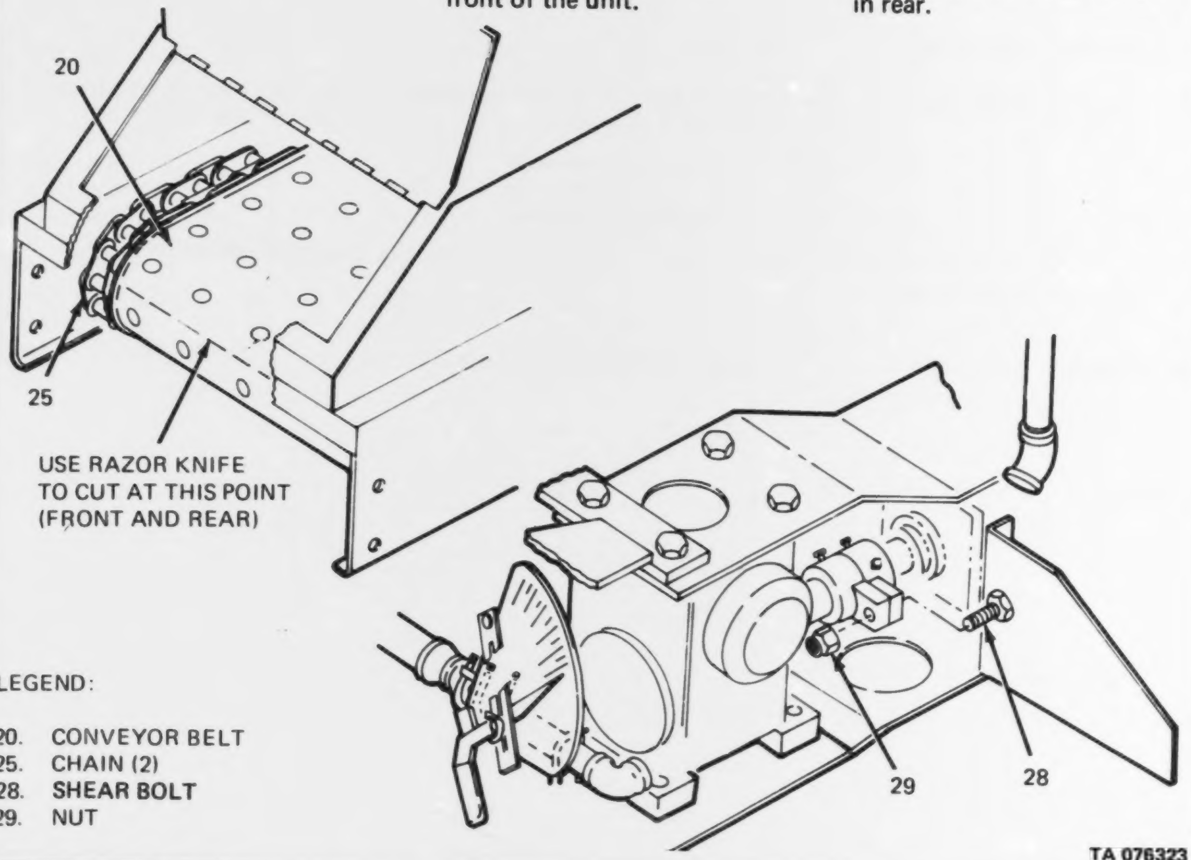
D. REMOVAL OF BROKEN BELT (Continued).

LOCATION/ITEM	ACTION	REMARKS
57. Shear bolt (28) and nut (29).	Remove from drive gear box coupling.	
58. Conveyor belt (20).	Use a razor knife to cut the belt at the front and rear.	If belt is broken completely from side to side, cut only in rear.

WARNING

During chain cutting, grease, or the belt itself will usually catch on fire. Have a fire extinguisher within easy reach. The fuel tank is close to the front end of the belt. Quench all flames in this area immediately.

LOCATION/ITEM	ACTION	REMARKS
59. Two chains (25).	Use an acetylene torch to cut chains at the rear and front of the unit.	If belt is broken completely from side to side, cut only in rear.



LEGEND:

20. CONVEYOR BELT
25. CHAIN (2)
28. SHEAR BOLT
29. NUT

TA 076323

AGGREGATE SUPPLY SYSTEM.

7-14. CONVEYOR BELT REPLACEMENT (Continued).

D. REMOVAL OF BROKEN BELT (Continued).

LOCATION/ITEM	ACTION	REMARKS
60. Two winch line pulleys (21).	a. Remove pins holding pulleys in place.	
	b. Mount pulleys with two bolts (23), nuts (24), and twelve washers (22) to the lower rear frame holes.	Use four washers each for spacers between pulleys and frame.
61. Conveyor belt (20).	Let the end of the belt down over the winch line pulleys (21).	
62. Two ropes (19) and four wires (18).	a. Attach to upper and lower half of chain links.	
	b. Attach other end of ropes (19) to towing vehicle (27).	
	c. Pull both halves of conveyor belt (20) from mixer body.	First pull one half out, then attach ropes and wires to other half.
63. Two locknuts (13).	Loosen.	
64. Two belt tensioning devices (14).	Loosen bolts (12) approximately 1-1/2 in. (38 mm).	Lubricate bolts and bearing slides for easy operation.

CAUTION

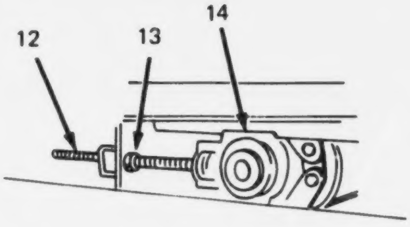
Do not turn bolts (12) farther than 1-1/2 in. (38 mm) or the sprockets will catch in the cross angles.

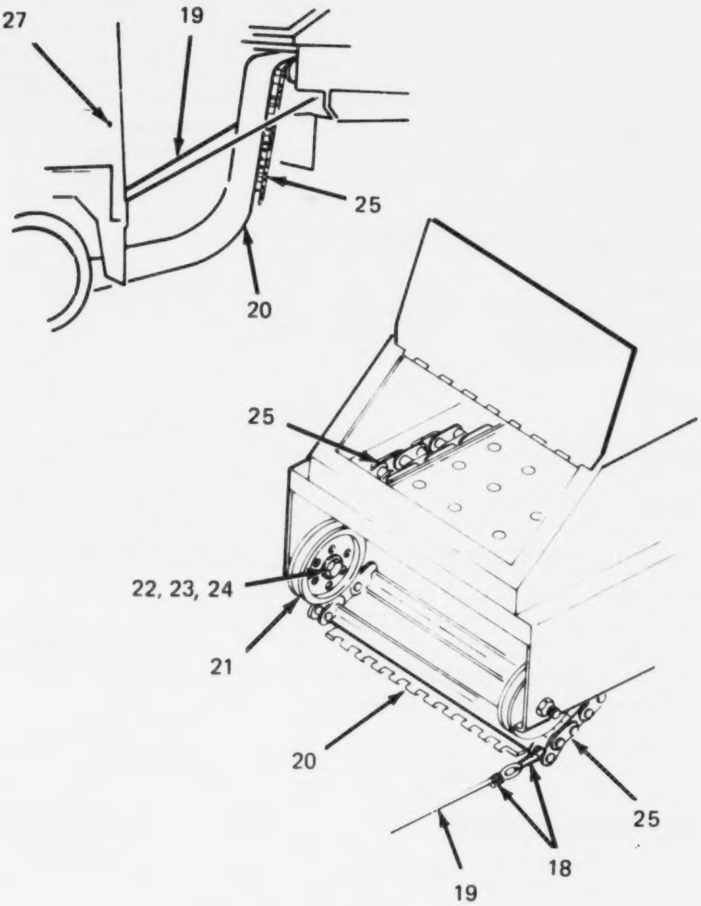
LOCATION/ITEM	ACTION	REMARKS
65. Conveyor belt (20).	Install. (Refer to procedure B.)	

AGGREGATE SUPPLY SYSTEM.

7-14. CONVEYOR BELT REPLACEMENT (Continued).

LOCATION/ITEM	ACTION	REMARKS

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LEGEND:

12. BOLT (2)
13. LOCKNUT (2)
14. BELT TENSIONING DEVICE (2)
18. WIRE (4)
19. ROPE (2)
20. CONVEYOR BELT
21. WINCH LINE PULLEY (2)
22. FLAT WASHER (12)
23. BOLT (2)
24. NUT (2)
25. CHAIN (2)
27. TOWING VEHICLE

TA 076324

AGGREGATE SUPPLY SYSTEM.

7-15. CONVEYOR BELT AND BELT LACER REPAIR.

THIS TASK COVERS: (APPROXIMATE TIME REQUIRED FOLLOWS TASK DESCRIPTION.)

Repair.	(30)
	30 Minutes Total.

INITIAL SETUP

EQUIPMENT CONDITION PARAGRAPH	CONDITION DESCRIPTION
7-14A.	Conveyor Belt Removed.

APPLICABLE CONFIGURATIONS

M919.

TEST EQUIPMENT

None.

SPECIAL TOOLS

None.

MATERIALS/PARTS (P/N)

Belt Lacer, NP5010003 (50663).
Belt Lacer Pin, NP5010004 (50663).
Rubber Belt, NP5028027 (50663).
Conveyor Chain, NP3817008 (50663).
Bolt and Nut, NP5043001 (50663).

PERSONNEL REQUIRED

One (MOS-62B20).

SPECIAL ENVIRONMENTAL CONDITIONS

Vehicle Parked on Level Ground.

REFERENCES (TM)

TM 5-3895-372-20P.
TM 5-3895-372-10.

GENERAL SAFETY INSTRUCTIONS

Engine Off.
Transmission in Neutral.
Parking Brake Set.

TROUBLESHOOTING REFERENCES

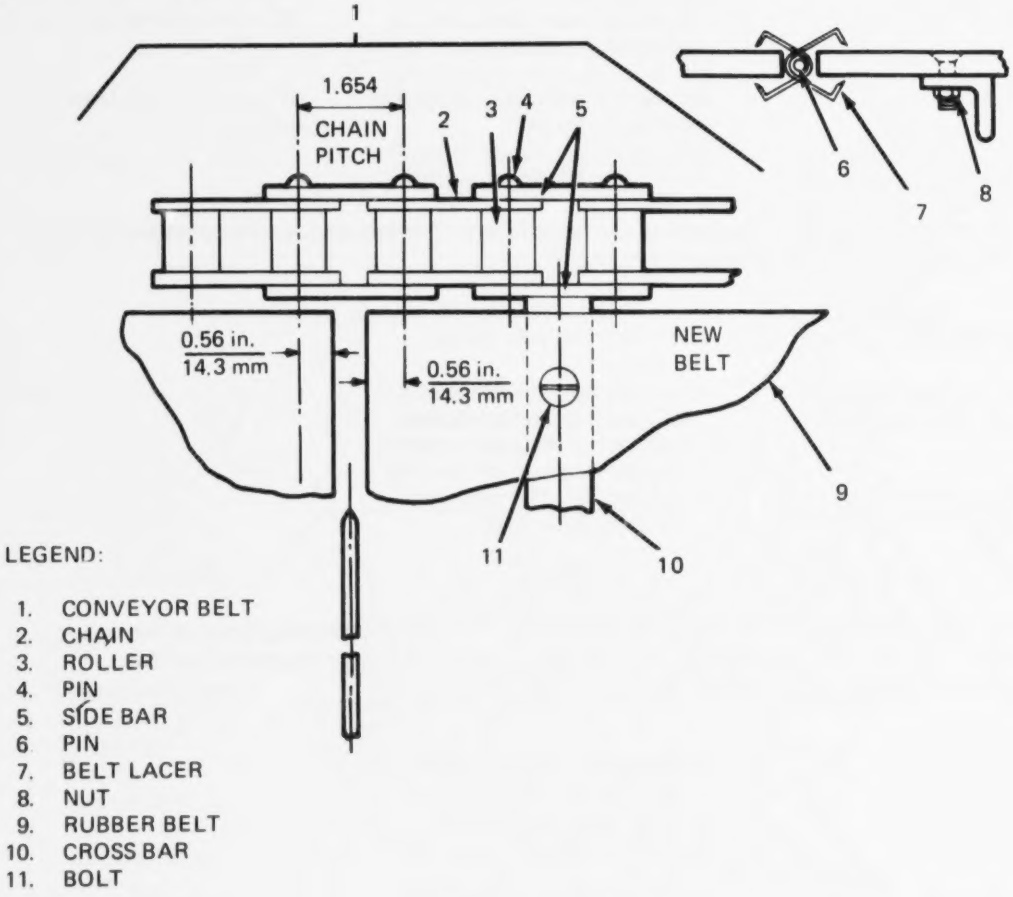
Table 7-1.

AGGREGATE SUPPLY SYSTEM.

7-15. CONVEYOR BELT AND BELT LACER REPAIR (Continued).

REPAIR.

LOCATION/ITEM	ACTION	REMARKS
1. Conveyor belt (1).	Stretch (rubber down) and count back three crossbars (10) at each end of the rubber belt (9) for replacement of belt lacer (7).	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CHAIN
PITCH
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3
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6
7
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0.56 in.
14.3 mm
0.56 in.
14.3 mm
NEW
BELT
9
11
10

LEGEND:

1. CONVEYOR BELT
2. CHAIN
3. ROLLER
4. PIN
5. SIDE BAR
6. PIN
7. BELT LACER
8. NUT
9. RUBBER BELT
10. CROSS BAR
11. BOLT

TA 076325

AGGREGATE SUPPLY SYSTEM.

7-15. CONVEYOR BELT AND BELT LACER REPAIR (Continued).

REPAIR (Continued).

NOTE

For replacement of belt sections, count back three crossbars (10) from the damaged section at each end.

LOCATION/ITEM	ACTION	REMARKS
2. Rubber belt (9).	Cut belt between the third and fourth crossbars (10) at each end.	
3. Bolts (11) and nuts (8).	Unscrew and remove the old rubber belt (9) from the crossbars (10).	If necessary, shear off nuts (8) with a chisel and hammer.
4. Chain (2).	Connect the chain and secure with two pins (4).	If replacing belt lacer (7) only.

NOTE

There cannot be any crossbars at the lacer/lacers. If necessary, remove crossbars. The chain will be left the same length.

LOCATION/ITEM	ACTION	REMARKS
5. Rubber belt (9).	a. Stretch the area to be repaired. b. Lay damaged rubber belt (9) on top of new rubber belt and cut to same length. c. Clamp one end of the new rubber belt (9) onto the first crossbar (10).	

NOTE

Be sure that 0.56 in. (14.3 mm) of the rubber belt (9) is extending beyond the centerline of the second roller (3). The thicker coating of rubber should be on the conveying side of the rubber belt.

LOCATION/ITEM	ACTION	REMARKS
	d. Using the crossbar (10) as a jig, drill 0.28 (7.1 mm) holes in the new rubber belt (9).	
6. Bolts (11) and nuts (8).	Install thru new rubber belt (9) and crossbar (10). Tighten bolts until flat head is flush with its surface.	

AGGREGATE SUPPLY SYSTEM.

7-15. CONVEYOR BELT AND BELT LACER REPAIR (Continued).

LOCATION/ITEM	ACTION	REMARKS

REPAIR (Continued).

NOTE

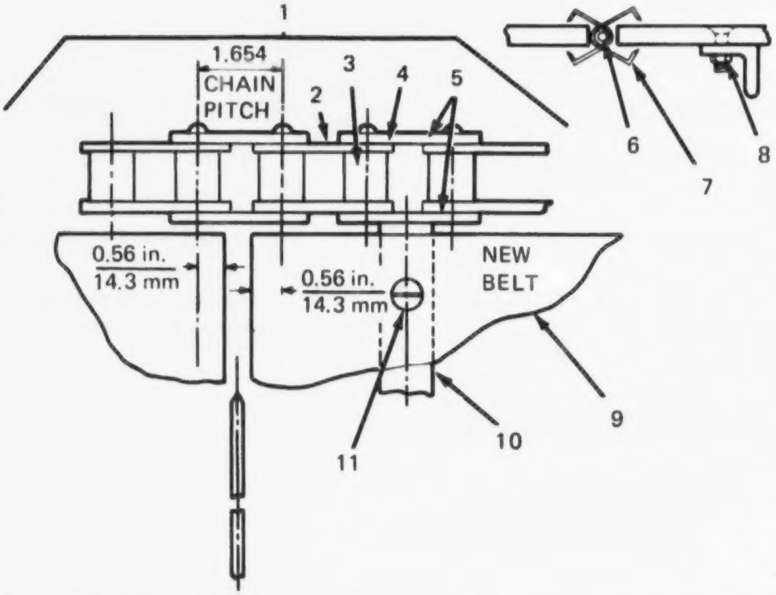
Repeat steps 5d and 6 with the balance of the crossbars. Be certain that 0.56 in. (14.3 mm) of the new rubber belt is extending beyond the centerline of the second roller (2).

LOCATION/ITEM	ACTION	REMARKS
7. Rubber belt (9).	After installing nuts (8) and bolts (11) in the last crossbar (10), cut extra length of the rubber belt (9) so that it is extending 0.56 in. (14.3 mm) beyond the centerline of the second roller (3).	
8. Bolts (11).	Cut off the excess length with a bolt cutter or chisel.	This distorts the threads and prevents the nuts (11) from coming off.

NOTE

The center of the pin (6) should be in the center of the side bars (5).

LOCATION/ITEM	ACTION	REMARKS
9. Belt lacers (7).	Use the pin (6) to space belt lacers between the ends of rubber belt (9).	Hammer teeth of belt lacer into rubber belt (9).



LEGEND:

1. CONVEYOR BELT
2. CHAIN
3. ROLLER
4. PIN
5. SIDE BAR
6. PIN
7. BELT LACER
8. NUT
9. RUBBER BELT
10. CROSS BAR
11. BOLT

TA 076326

AGGREGATE SUPPLY SYSTEM.

7-16. CHAIN OILER.

THIS TASK COVERS: (APPROXIMATE TIME REQUIRED FOLLOWS TASK DESCRIPTION.)

a. Removal.	(10)
b. Installation.	(10)
c. Operational Check.	(5)
	25 Minutes Total.

INITIAL SETUP

APPLICABLE CONFIGURATIONS

M919.

TEST EQUIPMENT

None.

SPECIAL TOOLS

None.

MATERIALS/PARTS (P/N)

None.

EQUIPMENT CONDITION PARAGRAPH	CONDITION DESCRIPTION
TM 5-3895-372-10.	Chain Oiler Turned Off.

PERSONNEL REQUIRED

One (MOS-62B20).

REFERENCES (TM)

LO 5-3895-372-12.
TM 9-2320-273-10.
TM 5-3895-372-10.
TM 5-3895-372-20P.

TROUBLESHOOTING REFERENCES

Table 7-1.

SPECIAL ENVIRONMENTAL CONDITIONS

Vehicle Parked on Level Ground.

GENERAL SAFETY INSTRUCTIONS

Engine Off.
Transmission in Neutral.
Parking Brake Set.

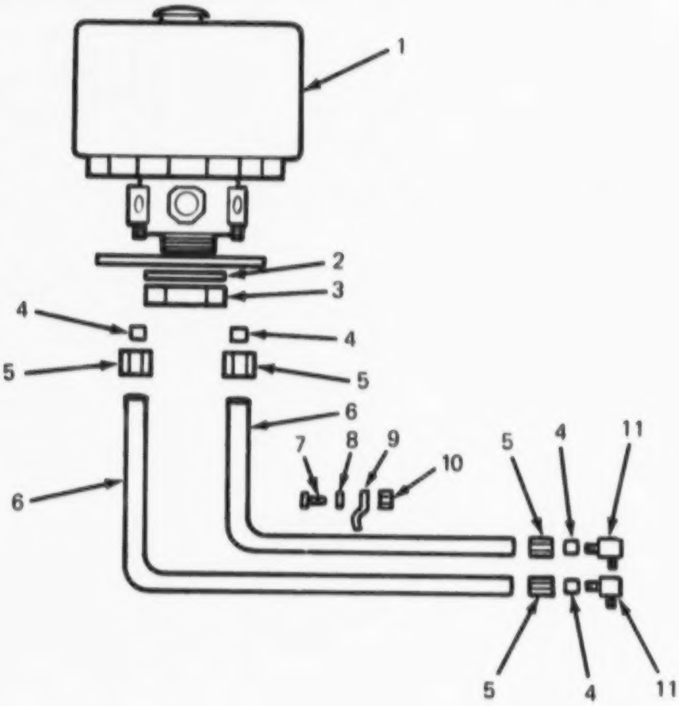
7-16. CHAIN OILER (Continued).

A. REMOVAL.

NOTE

Before beginning service, ensure chain oiler is turned OFF.

LOCATION/ITEM	ACTION	REMARKS
1. Two nuts (5) and sleeves (4), with two tubes (6).	Unscrew from chain oiler (1).	
2. Nut (3) and washer (2).	Remove.	
3. Chain oiler (1).	Remove.	
4. Screw (7), flatwasher (8), clamp (9), and nut (10).	Remove.	
5. Two nuts (5), and sleeves (4).	Unscrew and remove with two tubes (6) from two elbows (11).	



LEGEND:

1. CHAIN OILER
2. WASHER
3. NUT
4. SLEEVE (4)
5. NUT (4)
6. TUBE (2)
7. SCREW
8. FLATWASHER
9. CLAMP
10. NUT
11. ELBOW (2)

TA 076327

AGGREGATE SUPPLY SYSTEM.

7-16. CHAIN OILER (Continued).

LOCATION/ITEM	ACTION	REMARKS
B. INSTALLATION.		
6. Chain oiler (1).	Install to body with washer (2) and nut (3).	
7. Four nuts (5) and sleeves (4), with two tubes (6).	a. Screw onto chain oiler (1). b. Screw onto two elbows (11).	
8. Clamp (9).	Install and secure with screw (7), washer (8) and nut (10).	
C. OPERATIONAL CHECK.		
9. Chain oiler (1).	a. Turn on and check for five drops per minute.	
	b. Check for leakage at connections.	Retighten as necessary.
	c. Turn off chain oiler (1).	

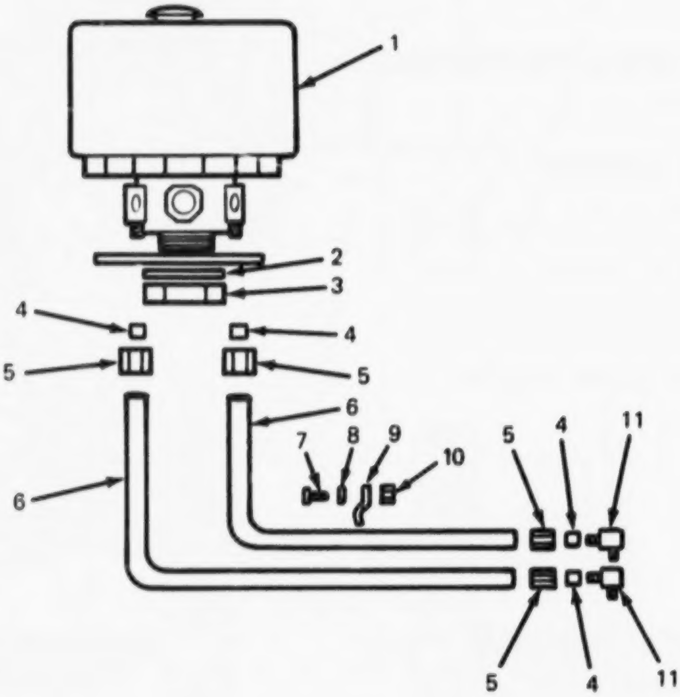
NOTE

Installation of a new chain oiler necessitates filling reservoir with fresh oil (refer to LO 5-3895-372-12).

AGGREGATE SUPPLY SYSTEM.

7-16. CHAIN OILER (Continued).

LOCATION/ITEM	ACTION	REMARKS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LEGEND:

1. CHAIN OILER
2. WASHER
3. NUT
4. SLEEVE (4)
5. NUT (4)
6. TUBE (2)
7. SCREW
8. FLATWASHER
9. CLAMP
10. NUT
11. ELBOW (2)

TA 076328

AGGREGATE SUPPLY SYSTEM.

7-17. SAND OR STONE GATES MAINTENANCE.

THIS TASK COVERS: (APPROXIMATE TIME REQUIRED FOLLOWS TASK DESCRIPTION.)

a. Removal.	(20)
b. Inspection.	(10)
c. Installation.	(20)
d. Adjustment.	(10)
	60 Minutes Total.

INITIAL SETUP

APPLICABLE CONFIGURATIONS

M919.

TEST EQUIPMENT

None.

SPECIAL TOOLS

None.

MATERIALS/PARTS (P/N)

None.

PERSONNEL REQUIRED

Two (MOS-62B20).

REFERENCES (TM)

LO 5-3895-372-12.
TM 9-2320-273-10.
TM 5-3895-372-10.
TM 5-3895-372-20P.

TROUBLESHOOTING REFERENCES

Table 7-1.

EQUIPMENT CONDITION PARAGRAPH	CONDITION DESCRIPTION
TM 5-3895-372-10.	Access Panels On Side of Vehicle Removed. Sand and Stone Bins Empty as Needed.

SPECIAL ENVIRONMENTAL CONDITIONS

Vehicle Parked on Level Ground.

GENERAL SAFETY INSTRUCTIONS

Engine Off.
Transmission in Neutral.
Parking Brake Set.

AGGREGATE SUPPLY SYSTEM.

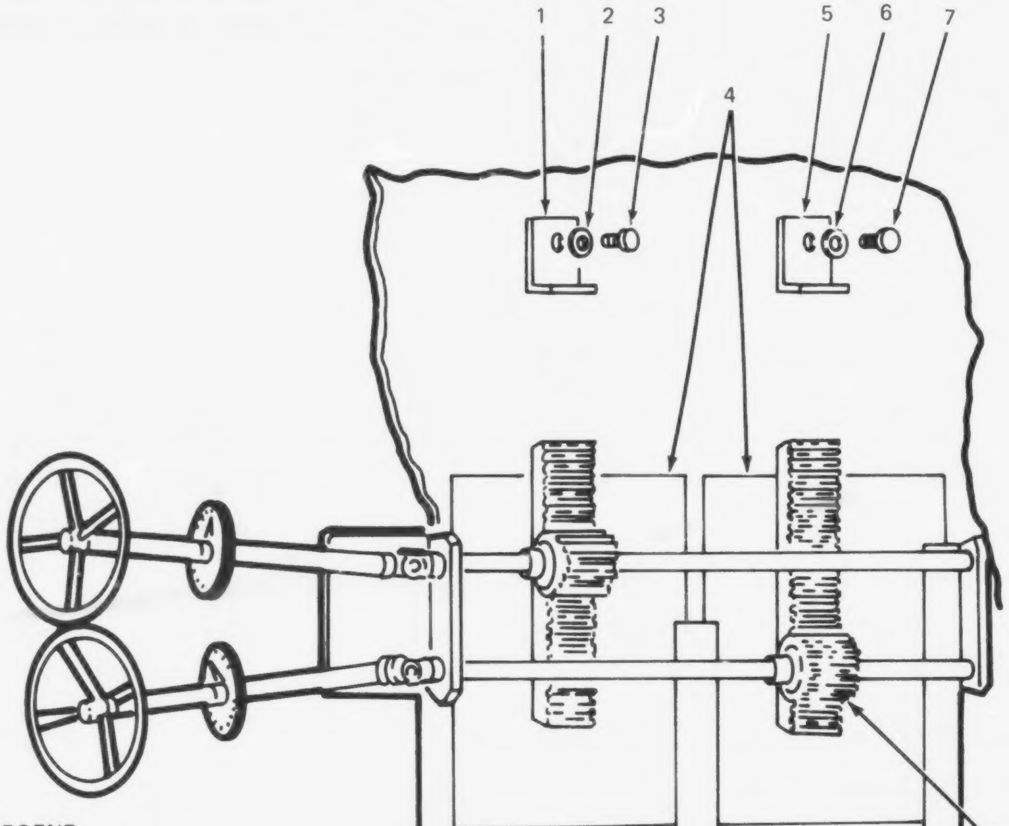
7-17. SAND OR STONE GATES MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS

A. REMOVAL.

NOTE

The following procedure is applicable to both the sand and stone gates.



LEGEND:

1. GATE STOP
2. LOCKWASHER
3. CAPSCREW
4. SAND/STONE GATE
5. GATE STOP
6. LOCKWASHER
7. CAPSCREW
8. RACK AND PINION TEETH

TA 076329

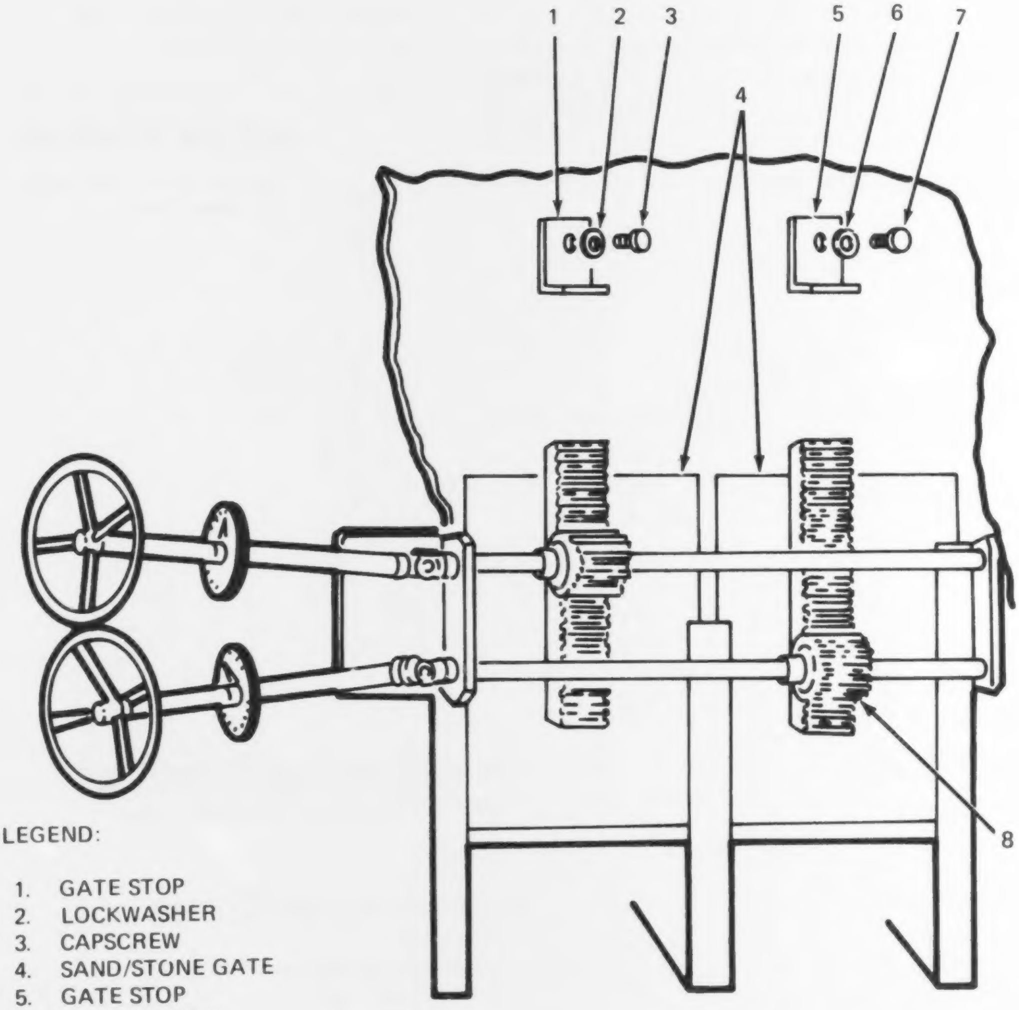
AGGREGATE SUPPLY SYSTEM.

7-17. SAND OR STONE GATES MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS
A. REMOVAL (Continued).		
1. Capscrew (3) or (7) and lockwasher (2) or (6).	Remove.	
2. Gate stop (1) or (5).	Remove.	
3. Sand/stone gate (4).	Remove.	With one man raising gate by turning wheel the other may support gate from falling.
B. INSPECTION.		
4. Sand/stone gate (4).	Inspect for: a. Cracks. b. Breaks. c. Chips. d. Wear.	
5. Rack and pinion teeth (8).	Inspect for wear.	
C. INSTALLATION.		
6. Sand/stone gate (4).	Install.	With one man starting the gate in place, the other may lower gate by turning wheel.
7. Gate stop (1) or (5).	Aline.	
8. Capscrew (3) or (7) and lockwasher (2) or (6).	Install and tighten.	
D. ADJUSTMENT.		
Refer to TM 5-3895-372-10.		

7-17. SAND OR STONE GATES MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS



LEGEND:

1. GATE STOP
2. LOCKWASHER
3. CAPSCREW
4. SAND/STONE GATE
5. GATE STOP
6. LOCKWASHER
7. CAPSCREW
8. RACK AND PINION TEETH

TA 076330

AGGREGATE SUPPLY SYSTEM.

7-18. SAND AND STONE CONTROLS MAINTENANCE.

THIS TASK COVERS: (APPROXIMATE TIME REQUIRED FOLLOWS TASK DESCRIPTION.)

a. Inspection.	(5)
b. Removal.	(5)
c. Repair.	(AR)
d. Installation.	(10)
	20 Minutes Total.

INITIAL SETUP

APPLICABLE CONFIGURATIONS

M919.

TEST EQUIPMENT

None.

SPECIAL TOOLS

None.

MATERIALS/PARTS (P/N)

None.

EQUIPMENT CONDITION PARAGRAPH	CONDITION DESCRIPTION
TM 5-3895-372-10.	Sand and Stone Bins Empty. Bin Gates Closed.

PERSONNEL REQUIRED

One (MOS-62B20).

REFERENCES (TM)

LO 5-3895-372-12.
TM 9-2320-273-10.
TM 5-3895-372-10.
TM 5-3895-372-20P.

TROUBLESHOOTING REFERENCES

Table 7-1.

SPECIAL ENVIRONMENTAL CONDITIONS

Vehicle Parked on Level Ground.

GENERAL SAFETY INSTRUCTIONS

Engine Off.
Transmission in Neutral.
Parking Brake Set.

AGGREGATE SUPPLY SYSTEM.

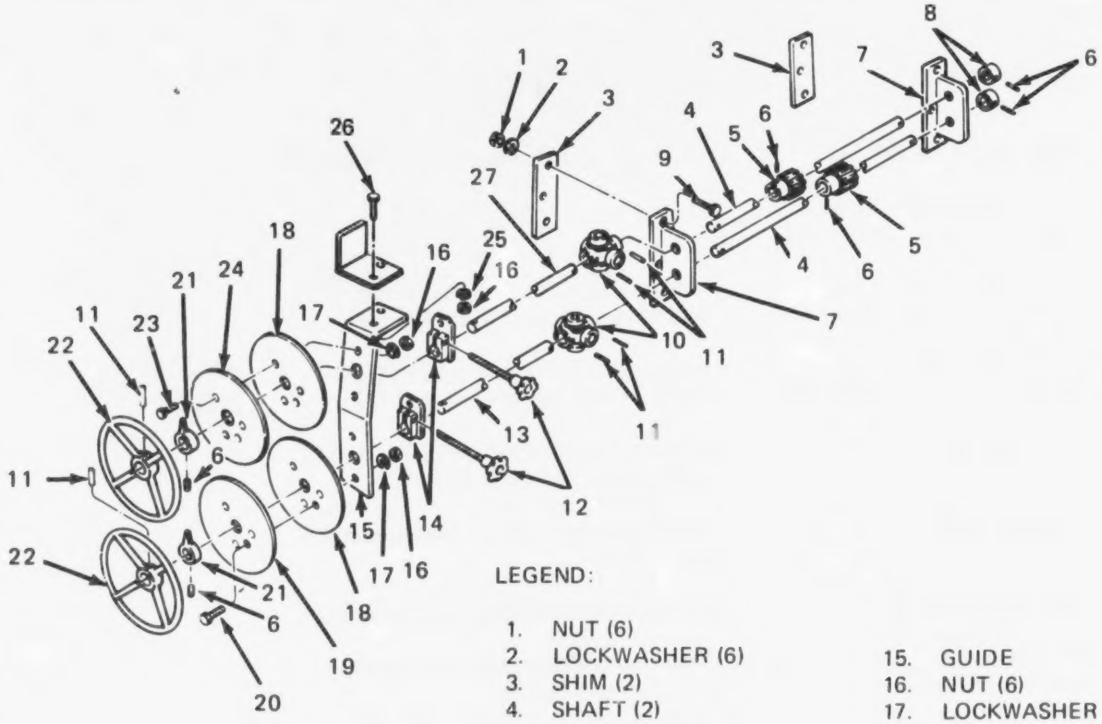
7-18. SAND AND STONE CONTROLS MAINTENANCE (Continued).

A. INSPECTION.

NOTE

The universal joints of the sand and stone gate controls have been permanently lubricated by the manufacturer.

LOCATION/ITEM	ACTION	REMARKS
1. Two universal joints (10), two shafts (4), shaft (13), and shaft (27).	a. Check whether shafts slip inside two collars (8).	If shafts slip, check for worn or missing pins (11). Replace pins (11) as needed.



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LEGEND:

1. NUT (6)
2. LOCKWASHER (6)
3. SHIM (2)
4. SHAFT (2)
5. GEAR (2)
6. SETSCREW (6)
7. ANGLE (2)
8. COLLAR (2)
9. SCREW (6)
10. UNIVERSAL JOINT (2)
11. PIN (6)
12. LOCKWASHER (2)
13. SHAFT
14. LOCK (2)
15. GUIDE
16. NUT (6)
17. LOCKWASHER (4)
18. PLATE (2)
19. DIAL FACE
20. SCREW (4)
21. POINTER (2)
22. WHEEL (2)
23. SCREW (4)
24. DIAL FACE
25. LOCKWASHER (2)
26. SCREW (2)
27. SHAFT

TA 076331

AGGREGATE SUPPLY SYSTEM.

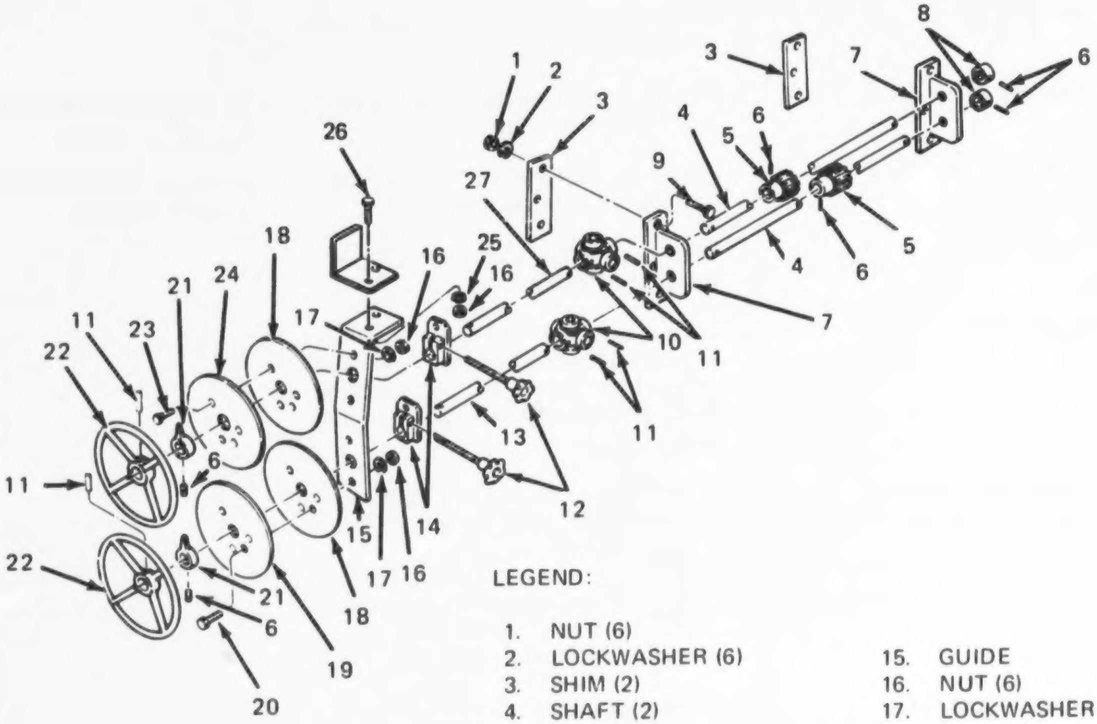
7-18. SAND AND STONE CONTROLS MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS
A. INSPECTION (Continued).		
	b. Check for binding, sticking, or grinding as universal joints turn.	
	CAUTION Before removing universal joints, check that collars and shafts are punch marked. If they are not, mark them for proper position at assembly.	
B. REMOVAL.		
2. Two pins (11).	Drive out and remove two wheels (22) from shaft (13) and (27).	
3. Two set screws (6).	Unscrew and remove two pointers (21).	
4. Four screws (20), lockwashers (17), and nuts (16).	Remove.	
5. Four screws (23), lockwashers (17), and nuts (16).	Unscrew and remove two plates (18), dial face (19), and dial face (24).	
6. Two screws (26), lockwashers (25), and nuts (16).	Unscrew and remove guide (15) by sliding from shafts (13) and (27).	
7. Two lock screws (12).	Unscrew and remove; slide locks (14) from shafts (13) and (27).	
8. Four pins (11).	Drive out and remove two universal joints (10).	
9. Two setscrews (6).	Back out and remove two collars (8).	
10. Six screws (9), lockwashers (2), and nuts (1).	Unscrew and remove two angles (7) with two shims (3).	
11. Two setscrews (6).	Loosen and remove two gears (5) from two shafts (4).	
C. REPAIR.		
Refer to para 4-10 for repair of universal joints.		Repair service is limited to the universal joints. All other control components are simply replaced if worn or damaged.
D. INSTALLATION.		
12. Two angles (7) and shims (3).	Aline holes and secure with six screws (9), lockwashers (2), and nuts (1).	

AGGREGATE SUPPLY SYSTEM.

7-18. SAND AND STONE CONTROLS MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS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LEGEND:

1. NUT (6)
2. LOCKWASHER (6)
3. SHIM (2)
4. SHAFT (2)
5. GEAR (2)
6. SETSCREW (6)
7. ANGLE (2)
8. COLLAR (2)
9. SCREW (6)
10. UNIVERSAL JOINT (2)
11. PIN (6)
12. LOCKWASHER (2)
13. SHAFT
14. LOCK (2)
15. GUIDE
16. NUT (6)
17. LOCKWASHER (4)
18. PLATE (2)
19. DIAL FACE
20. SCREW (4)
21. POINTER (2)
22. WHEEL (2)
23. SCREW (4)
24. DIAL FACE
25. LOCKWASHER (2)
26. SCREW (2)
27. SHAFT

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7-18. SAND AND STONE CONTROLS MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS
D. INSTALLATION (Continued).		
13. Two shafts (4).	Position thru two angles (7) and install two gears (5) with two setscrews (6).	
14. Two collars (8).	Slide onto shafts (4) and secure with two setscrews (6).	
15. Two universal joints (10).	Install on two shafts (4) and secure with two pins (11).	Be sure punch marks are properly aligned.
16. Shaft (13) and (27).	Install in two universal joints (10), and secure with two pins (11).	Be sure punch marks are properly alined.
17. Two locks (14).	Slide over shafts (13) and (27) and install two lockscrews (12).	
18. Guide (15).	Slide onto shafts (13) and (27), alining with holes in bracket welded to sand bin; secure with two screws (26), two lockwashers (25), and two nuts (16).	
19. Two plates (18), dial face (19), and dial face (24).	a. Aline holes and secure with four screws (20), lockwashers (17), and nuts (16). b. Slide over shafts (13) and (27), aline holes and secure to guide (15) with four screws (23), lockwashers (17) and nuts (16).	
20. Two pointers (21).	Slide onto shafts (13) and (27); secure with two setscrews (6).	
21. Two wheels (22).	Slide onto shafts (13) and (27); secure by driving in two pins (11).	

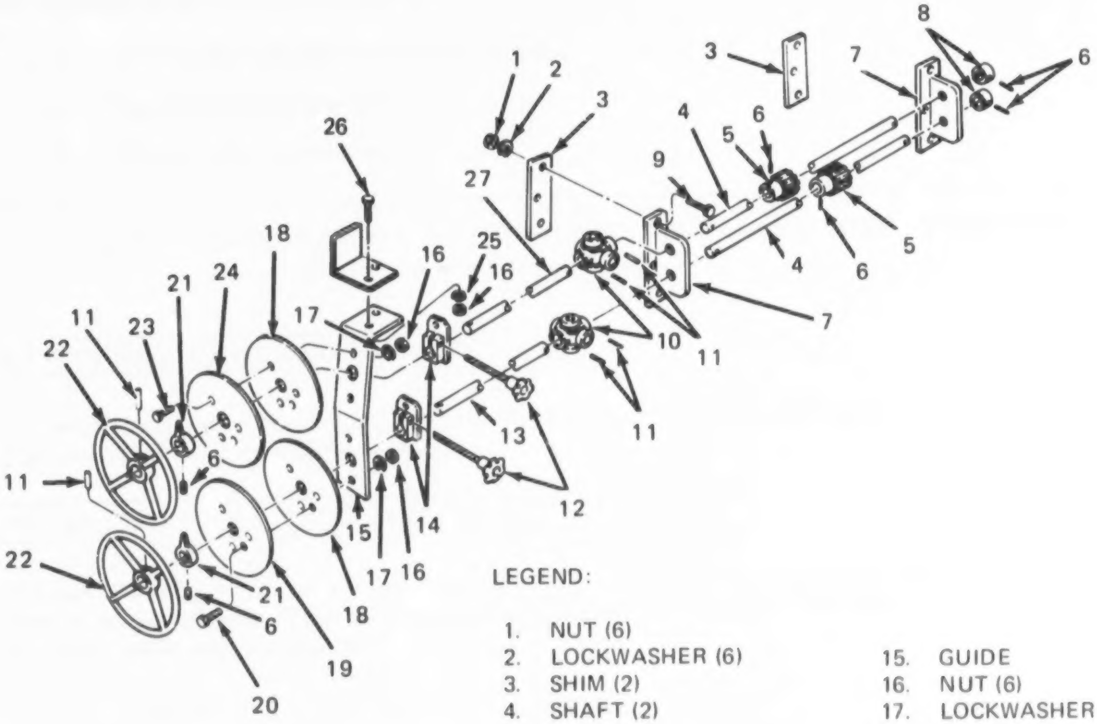
NOTE

Check gate adjustment after installation is completed (see TM 5-3895-372-10).

AGGREGATE SUPPLY SYSTEM.

7-18. SAND AND STONE CONTROLS MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS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LEGEND:

1. NUT (6)
2. LOCKWASHER (6)
3. SHIM (2)
4. SHAFT (2)
5. GEAR (2)
6. SETSCREW (6)
7. ANGLE (2)
8. COLLAR (2)
9. SCREW (6)
10. UNIVERSAL JOINT (2)
11. PIN (6)
12. LOCKWASHER (2)
13. SHAFT
14. LOCK (2)
15. GUIDE
16. NUT (6)
17. LOCKWASHER (4)
18. PLATE (2)
19. DIAL FACE
20. SCREW (4)
21. POINTER (2)
22. WHEEL (2)
23. SCREW (4)
24. DIAL FACE
25. LOCKWASHER (2)
26. SCREW (2)
27. SHAFT

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CHAPTER 8

CEMENT SYSTEM

8-1. OVERVIEW.

This chapter provides you with the following information related to cement system maintenance:

a. All required special tools and equipment.

b. Troubleshooting procedures.

c. Maintenance procedures.

Section I REPAIR PARTS, SPECIAL TOOLS, TMDE, AND SUPPORT EQUIPMENT

8-2. COMMON TOOLS AND EQUIPMENT.

For authorized common tools and equipment, refer to the Modified Table of Organization and Equipment (MTOE) applicable to your unit.

8-3. SPECIAL TOOLS, TMDE, AND SUPPORT EQUIPMENT.

The special tools, TMDE, and support equipment for maintenance procedures described in this chapter are as follows. (Refer to Organizational Maintenance RPSTL, TM 5-3895-372-20P for tool description and illustration.)

a. Stopwatch.

b. Scales: 0-400 lb, accurate to 1 lb
(0-180 kg, accurate to 0.5 kg).

8-4. SPARES AND REPAIR PARTS.

Spares and repair parts are listed and illustrated in the Repair Parts and Special Tools List covering Organizational Maintenance for this equipment (TM 5-3895-372-20P).

CEMENT SYSTEM.

8-5. TURNING THE METER FEEDER MANUALLY.

LOCATION/ITEM **ACTION** **REMARKS**

CAUTION

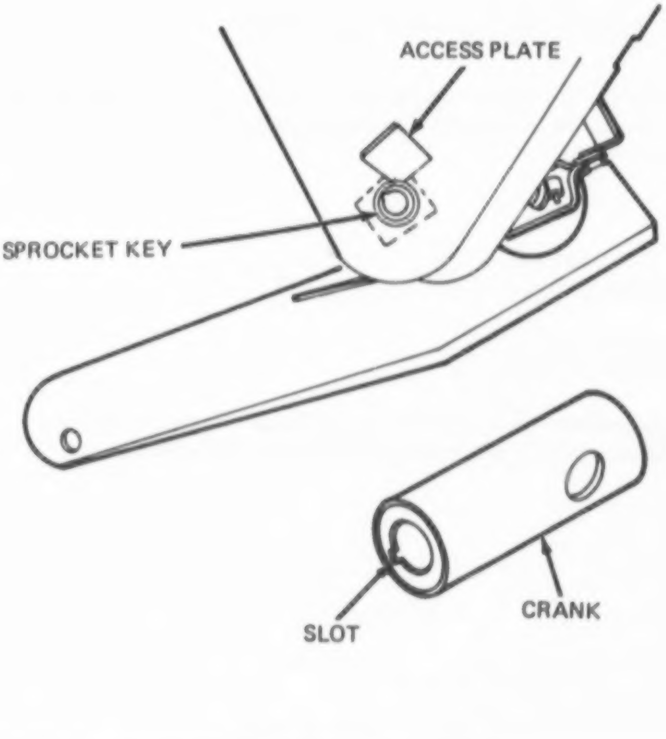
Always turn the meter feeder counterclockwise (in the direction of normal operation). Never turn it backwards (clockwise).

NOTE

Many of the procedures in this chapter tell you to turn the meter feeder manually. A bar and crank is provided with each mixer body for this purpose. To use them, follow the instructions below.

MANUAL POSITIONING.

LOCATION/ITEM	ACTION	REMARKS
1. Access plate.	Swing open.	On right hand side of cement bin.
2. Crank.	Place on shaft.	The slot in the crank fits over the sprocket key.



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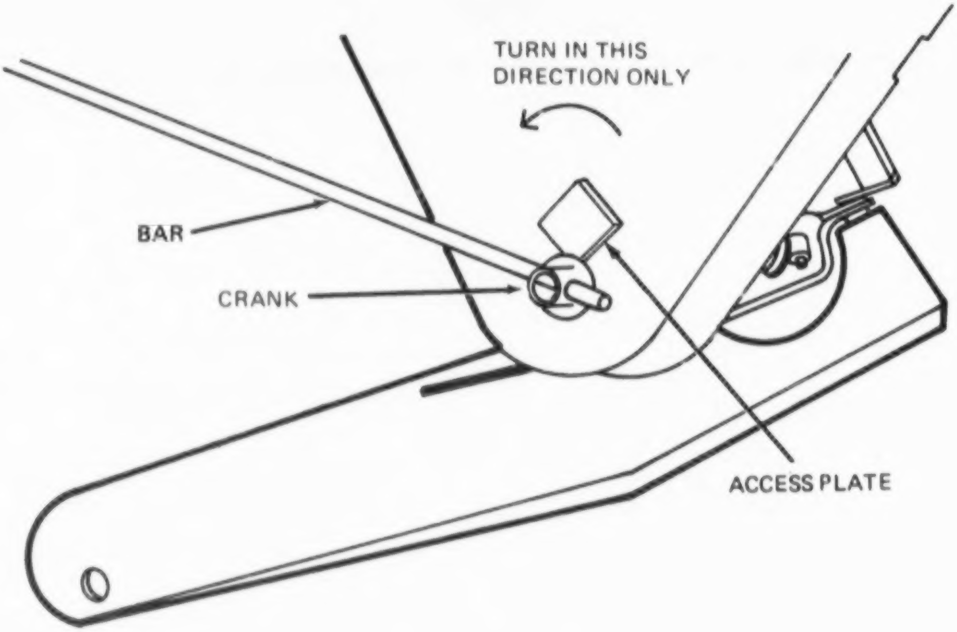
CEMENT SYSTEM.

8-5. TURNING THE METER FEEDER MANUALLY (Continued).

LOCATION/ITEM	ACTION	REMARKS
MANUAL POSITIONING (Continued).		
3. Bar.	a. Slide thru hole in crank. b. Turn meter feeder counterclockwise.	
4. Bar and crank.	Remove.	
5. Access plate.	Close.	


TURN IN THIS DIRECTION ONLY
BAR
CRANK
ACCESS PLATE

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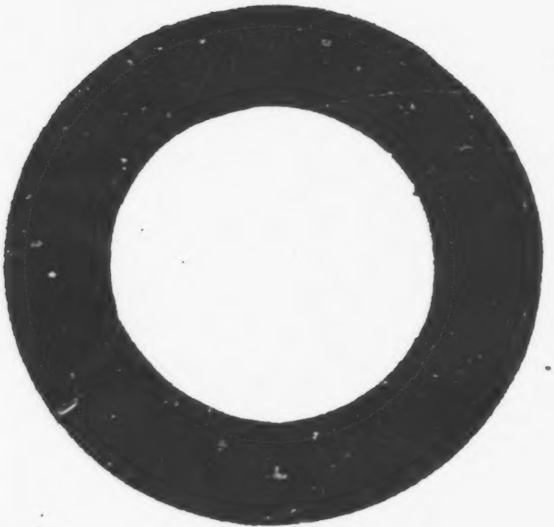


Section II TROUBLESHOOTING

8-6. INTRODUCTION.

Troubleshooting procedures for the cement system are given in table 8-1. It is arranged by malfunctions, in the following order:

a. Hard lumps of cement in bin (Malfunction No. 1).

b. Cement delivery uneven (Malfunction No. 2).

c. Meter feeder does not turn (Malfunction No. 3).

d. Cement bin auger will not turn (Malfunction No. 4).

e. Cement meter feeder locked in place (Malfunction No. 5).

f. Cement counter does not operate (Malfunction No. 6).

g. Cement screen does not vibrate (Malfunction No. 7).

NOTE

Troubleshooting procedures for air pads and bin vibrators are contained in table 11-1, para 11-5.

Table 8-1. Cement System Troubleshooting Procedures.

MALFUNCTION

TEST OR INSPECTION

CORRECTIVE ACTION

1. HARD LUMPS OF CEMENT IN BIN:

NOTE

Lumps of hardened cement result from moisture in bin. If this problem occurs remove cement. Clean and dry bin. Find what caused the problem. Follow the steps below. They will tell you how to keep the problem from happening again. Remember that bin should be emptied if mixer is left standing for more than a few days.

Step 1. Check for bent or warped cover.

Straighten cover and hammer out dents.

Cover must fit tightly on all sides.

Replace if necessary.

Step 2. Check for broken or loose cover gasket.

Replace gasket (refer to para 8-10).

Step 3. Check latch tensions. Latches should hold cover tightly against gasket on all sides.

Refer problem to Direct Support Maintenance.

2. CEMENT DELIVERY UNEVEN:

Step 1. Check for proper aeration.

See table 11-1, Malfunction No. 2.

Step 2. Check vibrators for proper operation.

See table 11-1, Malfunction No. 3.

Table 8-1. Cement System Troubleshooting Procedures (Continued).

MALFUNCTION

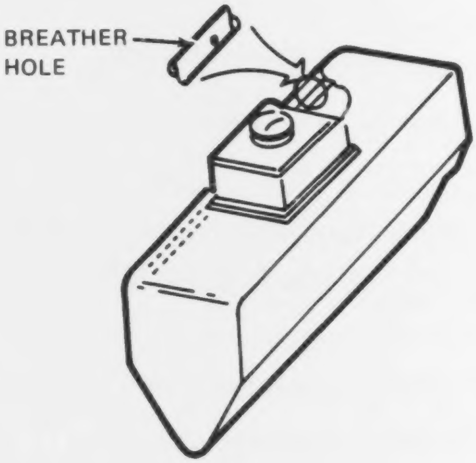
TEST OR INSPECTION

CORRECTIVE ACTION

2. CEMENT DELIVERY UNEVEN (Continued):

Step 3. Check for plugged breather.

Use a stiff wire to unplug breather.



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Step 4. Check to be sure meter feeder pockets are clean.

a. Remove side access doors.

b. Loosen spring tines.

c. Disengage clutch.

d. Rotate feeder. Use metal scraper to clean each pocket.

NOTE

If hard deposits of cement repeatedly build up in pockets, they are probably caused by condensation. To prevent this, place a lighted 100-watt electric bulb under the meter feeder when the mixer is parked overnight.

Table 8-1. Cement System Troubleshooting Procedures (Continued).

MALFUNCTION

TEST OR INSPECTION

CORRECTIVE ACTION

2. CEMENT DELIVERY UNEVEN (Continued):

e. Readjust spring tines (para 8-12).

Step 5. Check spring tines for:

a. Bends.

b. Breaks.

c. Missing tines.

d. Missing hammers.

e. Proper tension (para 8-12).

Replace tines or hammers, adjust tension.

Step 6. Make sure cross-auger fingers are straight and in place.

Inspect and replace auger fingers (para 9-8).

Step 7. Check that meter-register cable turns.

Tighten setscrews in cable ends (para 8-13).

Step 8. Check meter-register cable for loose play.

Adjust or replace cable (para 8-13).

Step 9. Check that ground straps are in good condition and touch ground.

Properly position or replace straps.

Table 8-1. Cement System Troubleshooting Procedures (Continued).

MALFUNCTION

TEST OR INSPECTION

CORRECTIVE ACTION

2. CEMENT DELIVERY UNEVEN (Continued):

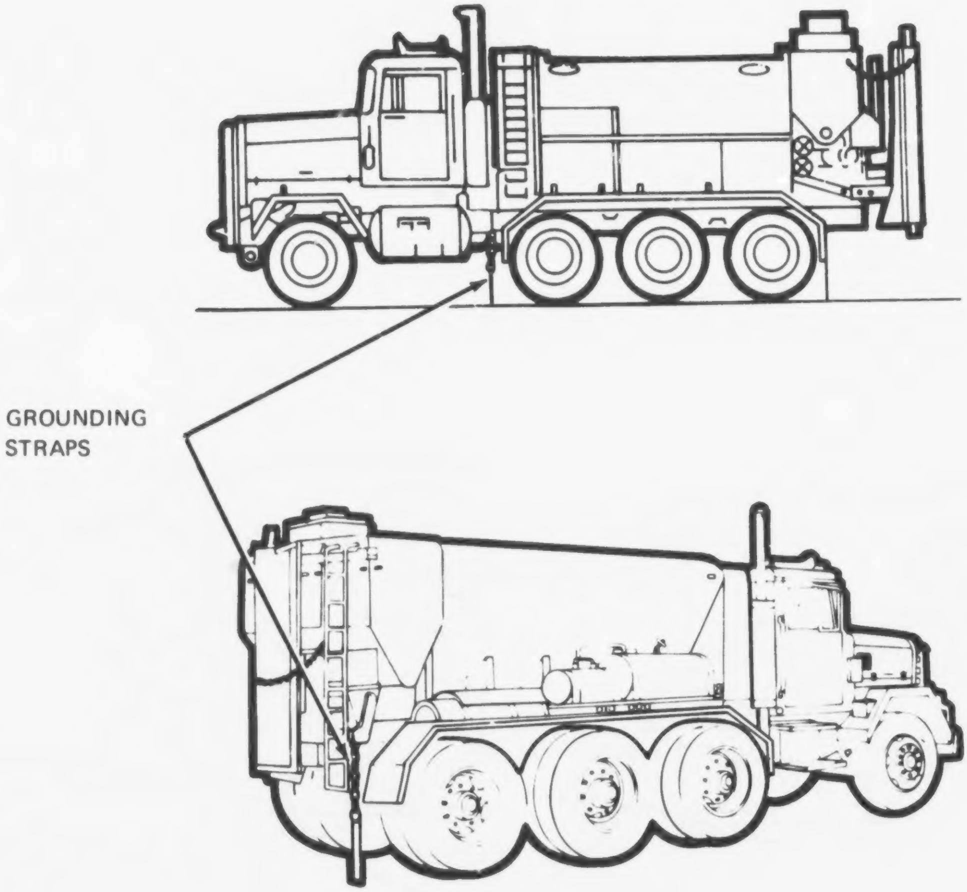

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Table 8-1. Cement System Troubleshooting Procedures (Continued).

MALFUNCTION

TEST OR INSPECTION

CORRECTIVE ACTION

3. METER-FEEDER DOES NOT TURN:

Step 1. Make sure that clutch is engaged.

Engage clutch.

Step 2. Check for broken shear bolt on main conveyor.

NOTE

A broken shear bolt results from some other problem. Often something is caught on the belt or chain. Unless you correct this problem, shear bolts will continue to break.

a. Find cause of shearing. Correct problem.

b. Replace shear bolt.

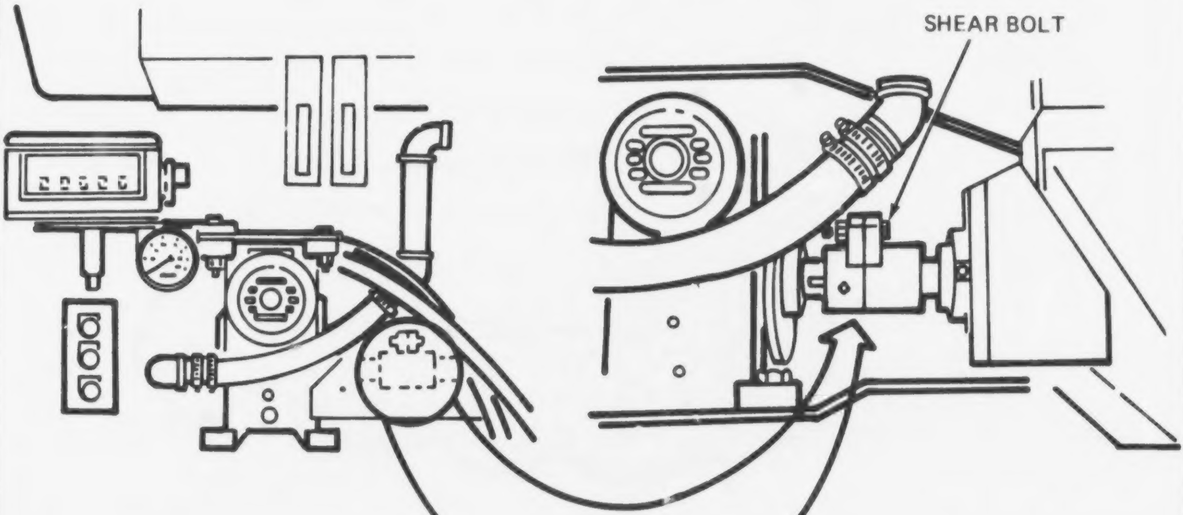

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Table 8-1. Cement System Troubleshooting Procedures (Continued).

MALFUNCTION

TEST OR INSPECTION

CORRECTIVE ACTION

3. METER-FEEDER DOES NOT TURN (Continued):

Step 3. Check for broken shear pin on meter-feeder drive, caused by objects stuck between vanes and housing of meter-feeder.

a. Raise rear access door.

b. Remove plate above housing.

CAUTION

Do not turn meter-feeder backwards unless spring tines are released.

c. Rotate feeder slowly in operating direction. Check for objects stuck between vanes and housing.

Remove objects. If necessary, release spring tines so that you can rock meter-feeder back and forth.

d. Replace shear pin.

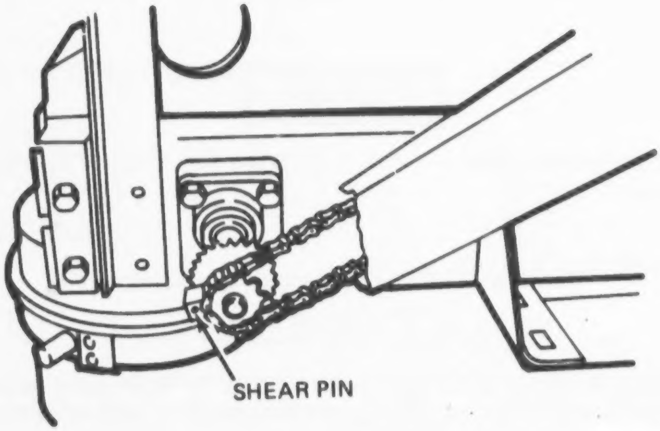

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Table 8-1. Cement System Troubleshooting Procedures (Continued).

MALFUNCTION

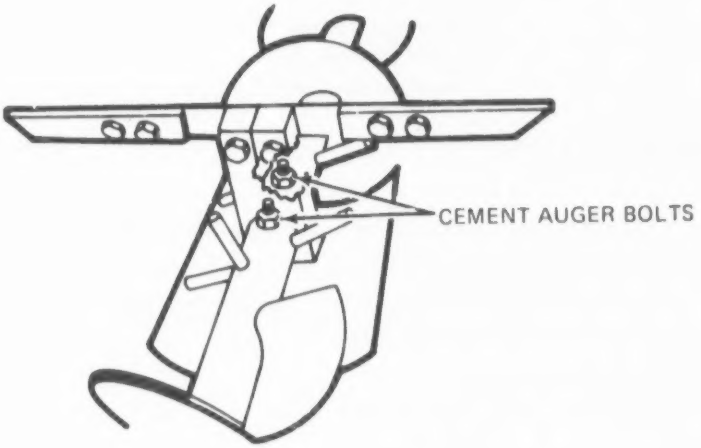
TEST OR INSPECTION

CORRECTIVE ACTION

4. CEMENT BIN AUGER WILL NOT TURN:

Step 1. Remove cement from bin. Check for loose or missing bolts holding auger tube to shaft.

Tighten or replace bolts.



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CAUTION

These are special, grade 5 machine bolts. Be sure you use the same kind of replacement.

Step 2. Check for broken key in sprocket.

NOTE

A broken key results from some other problem. Usually the auger is jammed by hardened cement. Unless you correct the problem, keys will continue to break.

a. Find cause of breakage. Correct problem.

b. Replace key.

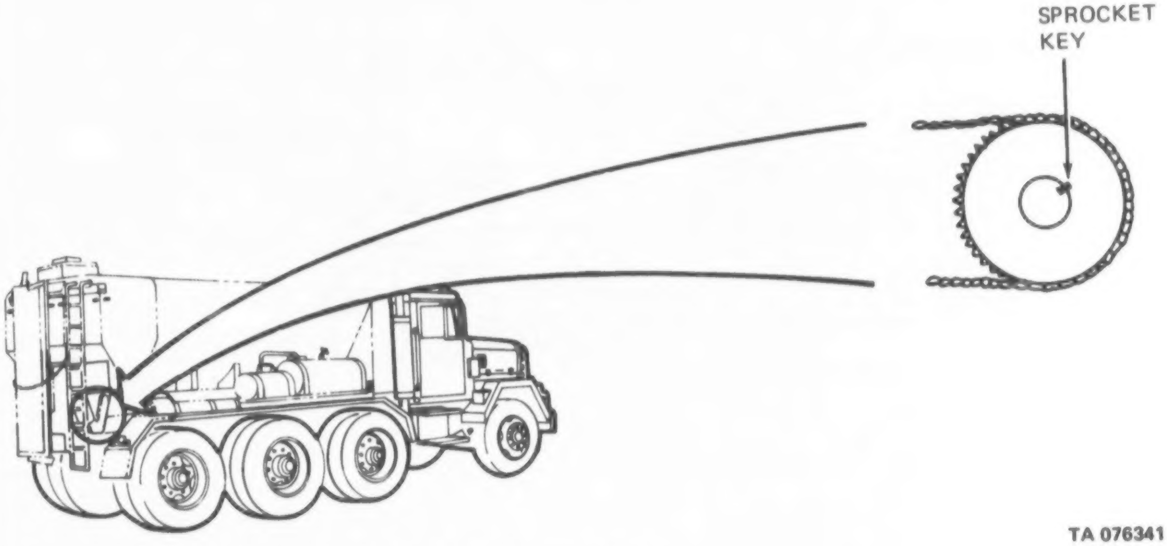
Table 8-1. Cement System Troubleshooting Procedures (Continued).

MALFUNCTION

TEST OR INSPECTION

CORRECTIVE ACTION

4. CEMENT BIN AUGER WILL NOT TURN (Continued):



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5. CEMENT METER-FEEDER BLOCKED IN PLACE:

Refer problem to Direct Support Maintenance.

6. CEMENT COUNTER DOES NOT OPERATE:

Step 1. Check cable for:

a. Breaks.

b. Kinks.

Straighten or replace cable (para 8-13).

Step 2. Check drive system for free movement.

Use manual control to actuate air pads. Give several sharp blasts of air.

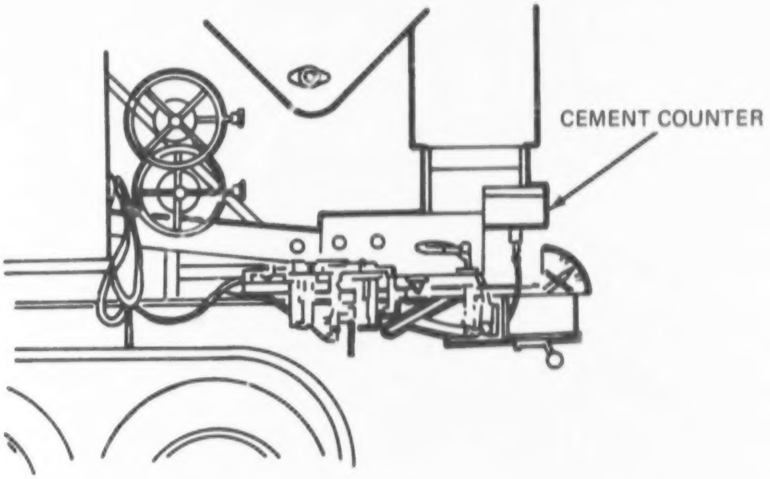
Table 8-1. Cement System Troubleshooting Procedures (Continued).

MALFUNCTION

TEST OR INSPECTION

CORRECTIVE ACTION

6. CEMENT COUNTER DOES NOT OPERATE (Continued):



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Step 3. Check that cable connectors are unbroken and properly seated.

Tighten connectors or replace cable (para 8-13).

Step 4. Be sure setscrews are tight.

Tighten setscrews (para 8-13).

7. CEMENT SCREEN DOES NOT VIBRATE:

Step 1. Check that arm between vibrator and screen is unbroken, firmly attached.

Attach or replace arm.

Step 2. Check that vibrator is properly lubricated.

Lubricate vibrator. (See para 11-8).

Table 8-1. Cement System Troubleshooting Procedures (Continued).

MALFUNCTION

TEST OR INSPECTION

CORRECTIVE ACTION

7. CEMENT SCREEN DOES NOT VIBRATE (Continued):

Step 3. Check that chassis air pressure is over 65 psi (448 kPa).

Start up truck and allow pressure to build up. If pressure remains low, troubleshoot chassis air system (see TM 9-2320-273-20).

Step 4. Check for air leaks.

Tighten connections or replace leaking part (para 11-12).

Step 5. Check air supply at vibrator.

Find blocked line or valve.

Remove block or replace part (para 11-12).

Step 6. Replace vibrator (para 11-8).

Section III MAINTENANCE PROCEDURES

8-7. INTRODUCTION.

This section provides you with Organizational Level maintenance procedures for the cement system of the mixer body. Paragraph 8-8 summarizes the maintenance tasks. Paragraphs 8-9 thru 8-15 contain detailed instructions for each task.

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8-8. CEMENT SYSTEM MAINTENANCE TASK SUMMARY.

INITIAL SETUP

APPLICABLE CONFIGURATIONS	EQUIPMENT CONDITION PARAGRAPH	CONDITION DESCRIPTION
M919.	TM 5-3895-372-10.	Cement Bin Empty.

TEST EQUIPMENT

None.

SPECIAL TOOLS

None.

MATERIALS/PARTS (P/N)

Oil (See Appendix C).
Filter Cloth, NP5033034 (50663).
GAA (See Appendix C).
Cement Meter Register, NP5016-004 (50663).

SPECIAL ENVIRONMENTAL CONDITIONS

Vehicle Parked on Level Ground.

PERSONNEL REQUIRED

Two (MOS-62B20).

REFERENCES (TM)

LO 5-3895-372-12.
TM 5-3895-372-10.
TM 5-3895-372-20P.
TM 9-2320-273-10.

REFERENCES (TROUBLESHOOTING)

Table 8-1.

GENERAL SAFETY INSTRUCTIONS

Engine Off.
Transmission in Neutral.
Parking Brake Set.
Safety Glasses Should be Worn When Working Around Cement.

LIST OF TASKS

TASK NO.	TASK	TASK REF	TROUBLESHOOTING REF (TABLE)
1.	Cement Screen Maintenance:	8-9	8-1
	a. Removal.	8-9A	
	b. Installation.	8-9B	
2.	Screen Vibrator Maintenance:	8-10	8-1
	a. Removal.	8-10A	
	b. Installation.	8-10B	
	c. Operational check.	8-10C	

8-8. CEMENT SYSTEM MAINTENANCE TASK SUMMARY (Continued).

LIST OF TASKS

TASK NO.	TASK	TASK REF	TROUBLESHOOTING REF (TABLE)
3.	Filter Cloth Replacement:	8-11	8-1
	a. Operational check.	8-11A	
	b. Removal.	8-11B	
	c. Installation.	8-11C	
4.	Spring Tine Maintenance:	8-12	8-1
	a. Inspection.	8-12A	
	b. Hammer replacement.	8-12B	
	c. Adjustment.	8-12C	
5.	Meter Register Cable Maintenance:	8-13	8-1
	a. Removal.	8-13A	
	b. Lubrication.	8-13B	
	c. Installation.	8-13C	
	d. Operational check.	8-13D	
	NOTE Maintenance procedures for the fluffer air supply and bin vibrators are listed in paragraphs 11-8, 11-12, and 11-14.		
6.	Cement Meter Register Replacement:	8-14	8-1
	a. Removal.	8-14A	
	b. Installation.	8-14B	
7.	Cement System Drive Maintenance:	8-15	8-1
	a. Removal.	8-15A	
	b. Disassembly.	8-15B	
	c. Cleaning and inspection.	8-15C	
	d. Assembly.	8-15D	
	e. Installation.	8-15E	

CEMENT SYSTEM.

8-9. CEMENT SCREEN MAINTENANCE.

THIS TASK COVERS: (APPROXIMATE TIME REQUIRED FOLLOWS TASK DESCRIPTION.)

a. Removal.	(5)
b. Installation.	(10)
	15 Minutes Total.

INITIAL SETUP

APPLICABLE CONFIGURATIONS

M919.

TEST EQUIPMENT

None.

SPECIAL TOOLS

None.

MATERIALS/PARTS (P/N)

None.

EQUIPMENT CONDITION PARAGRAPH	CONDITION DESCRIPTION
None.	None.

PERSONNEL REQUIRED

One (MOS-62B20).

REFERENCES (TM)

LO 5-3895-372-12.
TM 5-3895-372-10.
TM 5-3895-372-20P.
TM 9-2320-273-10.

TROUBLESHOOTING REFERENCES

Table 8-1.

SPECIAL ENVIRONMENTAL CONDITIONS

Vehicle Parked on Level Ground.

GENERAL SAFETY INSTRUCTIONS

Engine Off.
Transmission in Neutral.
Parking Brake Set.

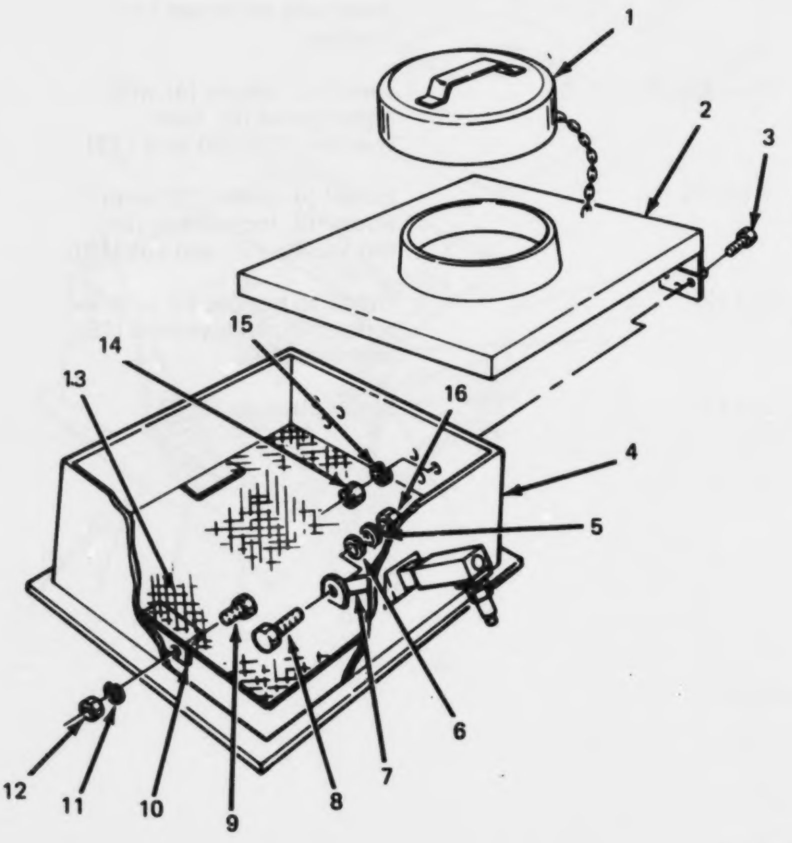
CEMENT SYSTEM.

8-9. CEMENT SCREEN MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS
A. REMOVAL.		
1. Hopper (4).	Remove from bin.	
2. Screw (8), lockwasher (6), flat washer (5), and nut (16).	Unscrew and remove arm (7) from screen (13).	
3. Eight screws (9), lockwashers (11), and eight nuts (12).	Turn hopper (4) up-side-down to loosen and remove four brackets (10) and screen (13).	

LEGEND:

1. LID
2. LID
3. SCREW (6)
4. HOPPER
5. FLAT WASHER
6. LOCKWASHER
7. ARM
8. SCREW
9. SCREW (8)
10. BRACKET (4)
11. LOCKWASHER (8)
12. NUT (8)
13. SCREEN
14. NUT (6)
15. LOCKWASHER (6)
16. NUT



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CEMENT SYSTEM.

8-9. CEMENT SCREEN MAINTENANCE (Continued).

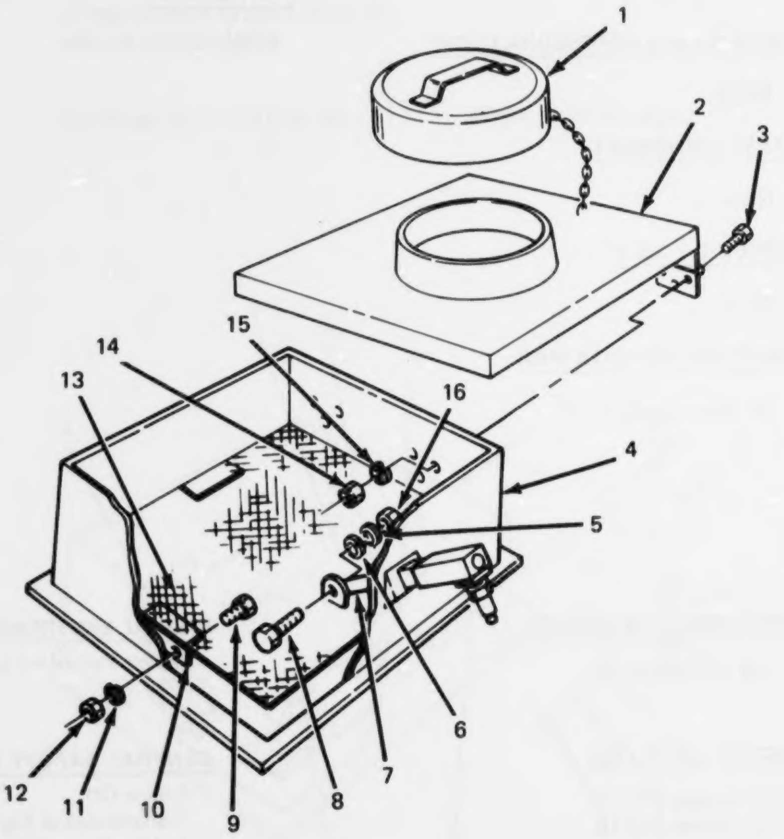
LOCATION/ITEM	ACTION	REMARKS
A. REMOVAL (Continued).		
	NOTE If necessary, use the following steps to remove lids.	
4. Six screws (3), lockwashers (15), and nuts (14).	Unscrew and remove lid (2) from hopper (4).	
5. Lid (1).	Pull up and remove from lid (2).	
B. INSTALLATION.		
6. Screen (13).	Turn hopper (4) up-side-down and set screen (13) in place.	
7. Four brackets (10).	Install to hopper (4) with eight screws (9), lockwashers (11), and nuts (12).	
8. Arm (7).	Install to screen (13) with screw (8), lockwasher (6), flat washer (5), and nut (16).	
9. Lid (2).	Install to hopper (4) with six screws (3), lockwashers (15), and nuts (14).	
10. Lid (1).	Set in place on lid (2).	

8-9. CEMENT SCREEN MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS

LEGEND:

1. LID
2. LID
3. SCREW (6)
4. HOPPER
5. FLAT WASHER
6. LOCKWASHER
7. ARM
8. SCREW
9. SCREW (8)
10. BRACKET (4)
11. LOCKWASHER (8)
12. NUT (8)
13. SCREEN
14. NUT (6)
15. LOCKWASHER (6)
16. NUT



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CEMENT SYSTEM.

8-10. SCREEN VIBRATOR MAINTENANCE.

THIS TASK COVERS: (APPROXIMATE TIME REQUIRED FOLLOWS TASK DESCRIPTION.)

a. Removal.	(5)
b. Installation.	(5)
c. Operational Check.	(5)
	15 Minutes Total.

INITIAL SETUP

APPLICABLE CONFIGURATIONS

M919.

TEST EQUIPMENT

None.

SPECIAL TOOLS

None.

MATERIALS/PARTS (P/N)

Oil (See Appendix C).

EQUIPMENT CONDITION PARAGRAPH	CONDITION DESCRIPTION
None.	None.

PERSONNEL REQUIRED

One (MOS-62B20).

REFERENCES (TM)

LO 5-3895-372-12.
TM 5-3895-372-10.
TM 5-3895-372-20P.
TM 9-2320-273-10.

TROUBLESHOOTING REFERENCES

Table 8-1.

SPECIAL ENVIRONMENTAL CONDITIONS

Vehicle Parked on Level Ground.

GENERAL SAFETY INSTRUCTIONS

Engine Off.
Transmission in Neutral.
Parking Brake Set.
Safety Glasses Should be Worn When Working Around Cement.

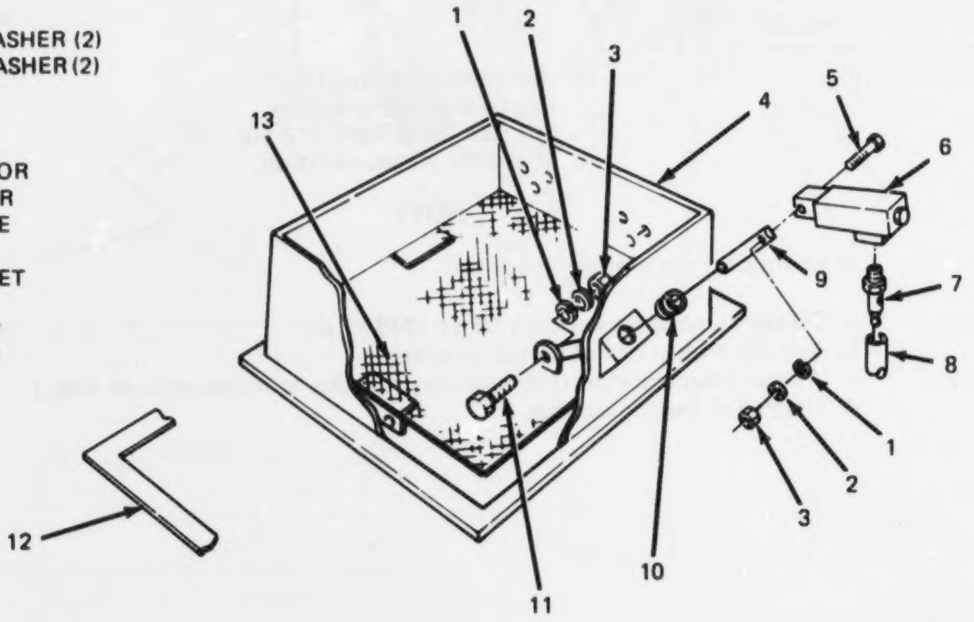
CEMENT SYSTEM.

8-10. SCREEN VIBRATOR MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS
A. REMOVAL.		
1. Air line (8).	Twist and pull off of coupler (7).	
2. Coupler (7).	Unscrew from vibrator (6).	
3. Screw (5), lockwasher (1), flat washer (2), and nut (3).	Unscrew and remove vibrator (6).	
4. Screw (11), lockwasher (1), flat washer (2), and nut (3).	Unscrew and remove arm (9) and grommet (10).	
5. Gasket (12).	Remove from hopper (4).	Replace if damaged.

LEGEND:

1. LOCKWASHER (2)
2. FLAT WASHER (2)
3. NUT (2)
4. HOPPER
5. SCREW
6. VIBRATOR
7. COUPLER
8. AIR LINE
9. ARM
10. GROMMET
11. SCREW
12. GASKET
13. SCREEN



TA 076345

CEMENT SYSTEM.

8-10. SCREEN VIBRATOR MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS
B. INSTALLATION.		
6. Gasket (12).	Position on bottom of hopper (4).	
7. Grommet (10) and arm (9).	a. Install grommet (10) into hopper (4) as shown. b. Install arm (9) thru grommet (10) and secure inside hopper at screen (13) with screw (11), lockwasher (1), flat washer (2) and nut (3).	
8. Vibrator (6).	Aline with arm (9) and secure with screw (5), lockwasher (1), flat washer (2), and nut (3).	
9. Coupler (7).	Screw into vibrator (6).	
10. Air line (8).	Twist and push onto coupler (7).	
C. OPERATIONAL CHECK.		
11. Air line (8).	a. Use quick-disconnect fitting to connect to supply line (see TM 5-3895-372-10). b. Check for screen vibration.	

NOTE

If screen does not vibrate, check for:

a. Chassis air pressure less than 65 psi (448 kPa).
b. Arm (9) broken or not bolted to screen.
c. Unlubricated vibrator. (Vibrator may rust due to moisture in air lines.)
d. Blocked or leaking air lines.

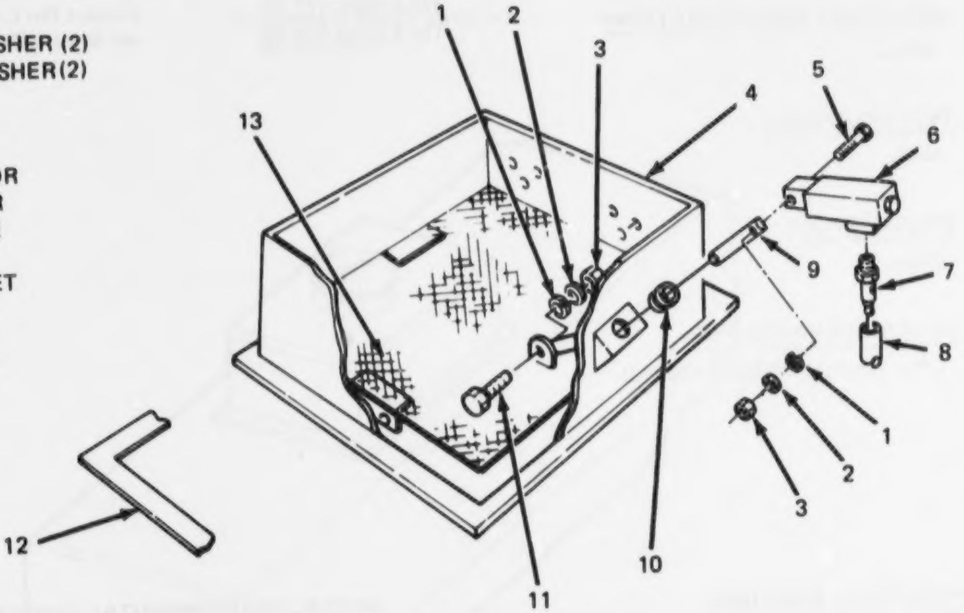
CEMENT SYSTEM.

8-10. SCREEN VIBRATOR MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS

LEGEND:

1. LOCKWASHER (2)
2. FLAT WASHER (2)
3. NUT (2)
4. HOPPER
5. SCREW
6. VIBRATOR
7. COUPLER
8. AIR LINE
9. ARM
10. GROMMET
11. SCREW
12. GASKET
13. SCREEN



TA 076346

CEMENT SYSTEM.

8-11. FILTER CLOTH REPLACEMENT.

THIS TASK COVERS: (APPROXIMATE TIME REQUIRED FOLLOWS TASK DESCRIPTION.)

a. Operational Check.	(10)
b. Removal.	(5)
c. Installation.	(10)
	25 Minutes Total.

INITIAL SETUP

APPLICABLE CONFIGURATIONS

M919.

TEST EQUIPMENT

None.

SPECIAL TOOLS

None.

MATERIALS/PARTS (P/N)

Filter Cloth, NP5033034 (50663).

EQUIPMENT CONDITION PARAGRAPH	CONDITION DESCRIPTION
TM 5-3895-372-10.	Cement Bin Empty.
TM 9-2320-273-10.	Air System Charged.

PERSONNEL REQUIRED

Two (MOS-62B20).

REFERENCES (TM)

TM 5-3895-372-10.
TM 5-3895-372-20P.
TM 9-2320-273-10.

TROUBLESHOOTING REFERENCES

Table 8-1.

SPECIAL ENVIRONMENTAL CONDITIONS

Vehicle Parked on Level Ground.

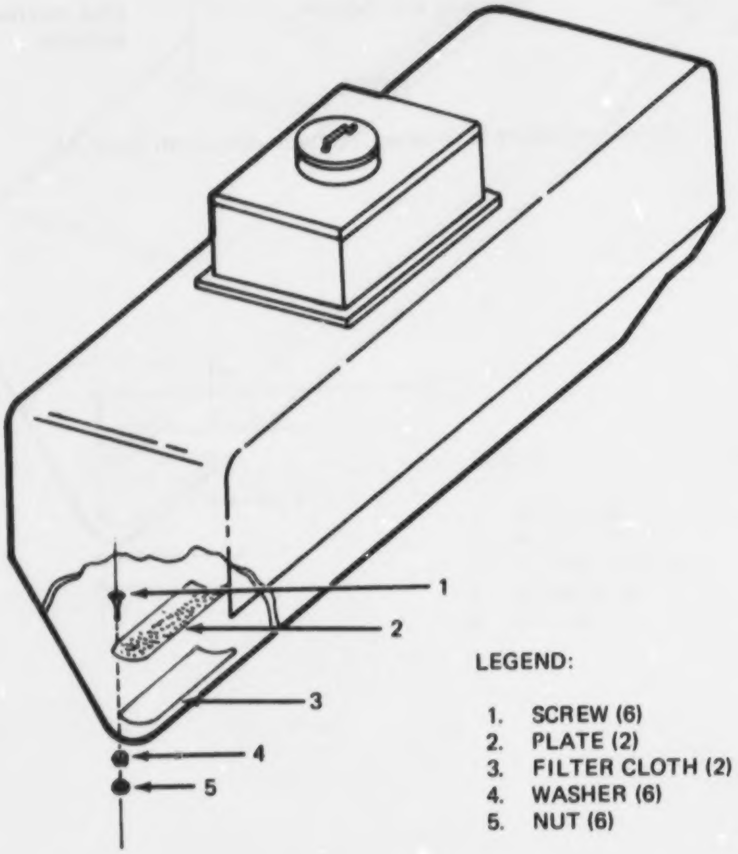
GENERAL SAFETY INSTRUCTIONS

Engine Off.
Transmission in Neutral.
Parking Brake Set.
Safety Glasses Should be Worn When Working Around Cement.

CEMENT SYSTEM.

8-11. FILTER CLOTH REPLACEMENT (Continued).

LOCATION/ITEM	ACTION	REMARKS
A. OPERATIONAL CHECK.		
1. Cement bin.	Fill 3-5 in. (8-13 cm) deep with cement.	
2. Two filter cloths (3).	Actuate with several short sharp blasts. Watch for gentle puffs of cement. a. Torn cloth gives sharp blast. b. Clogged cloth gives no air action.	One mechanic at fluffer control, one at top of cement bin.



LEGEND:

1. SCREW (6)
2. PLATE (2)
3. FILTER CLOTH (2)
4. WASHER (6)
5. NUT (6)

TA 076347

CEMENT SYSTEM.

8-11. FILTER CLOTH REPLACEMENT (Continued).

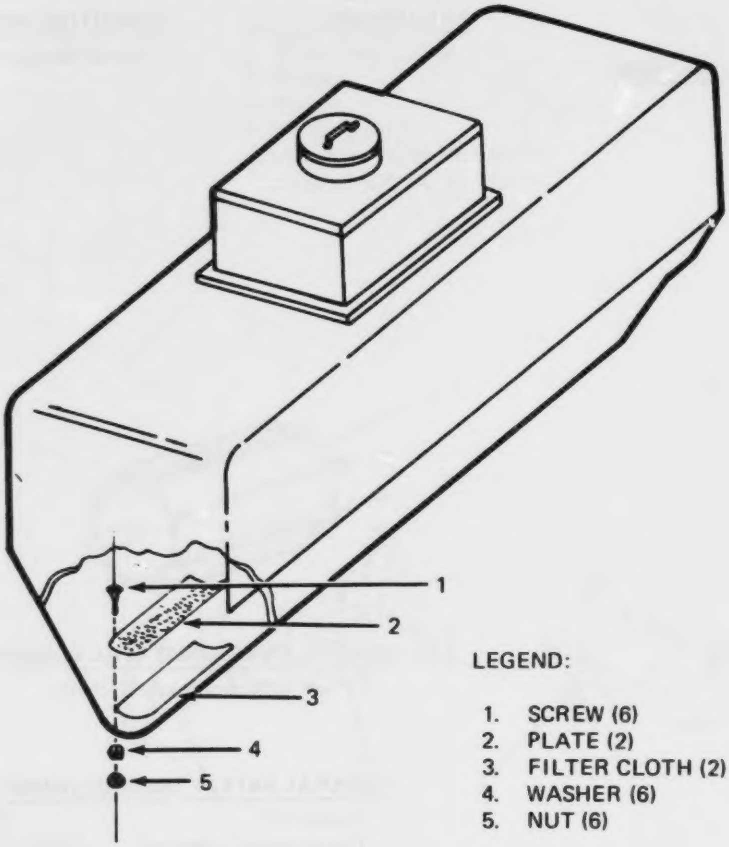
LOCATION/ITEM	ACTION	REMARKS
B. REMOVAL.		
3. Cement bin.	Empty.	Refer to TM 5-3895-372-10.
4. Six screws (1), washers (4), and nuts (5).	Unscrew and remove.	One mechanic in bin, one outside.
5. Plate (2) and filter cloth (3).	Remove.	
C. INSTALLATION.		
6. Filter cloth (3) and plate (2).	Place in bin.	
7. Six screws (1), washers (4), and nuts (5).	Screw in and tighten.	One mechanic in bin, one outside.

NOTE

When procedure is finished, recheck operation (part A).

8-11. FILTER CLOTH REPLACEMENT (Continued).

LOCATION/ITEM	ACTION	REMARKS



LEGEND:

1. SCREW (6)
2. PLATE (2)
3. FILTER CLOTH (2)
4. WASHER (6)
5. NUT (6)

TA 076348

CEMENT SYSTEM.

8-12. SPRING TINE MAINTENANCE.

THIS TASK COVERS: (APPROXIMATE TIME REQUIRED FOLLOWS TASK DESCRIPTION.)

a. Inspection.	(5)
b. Hammer Replacement.	(5)
c. Adjustment.	(5)
	15 Minutes Total.

INITIAL SETUP

APPLICABLE CONFIGURATIONS

M919.

TEST EQUIPMENT

None.

SPECIAL TOOLS

None.

MATERIALS/PARTS (P/N)

None.

EQUIPMENT CONDITION PARAGRAPH	CONDITION DESCRIPTION
8-15.	Panels Removed.

PERSONNEL REQUIRED

One (MOS-62B20).

REFERENCES (TM)

TM 5-3895-372-20P.
TM 5-3895-372-10.
TM 9-2320-273-10.

TROUBLESHOOTING REFERENCES

Table 8-1.

SPECIAL ENVIRONMENTAL CONDITIONS

Vehicle Parked on Level Ground.

GENERAL SAFETY INSTRUCTIONS

Engine Off.
Transmission in Neutral.
Parking Brake Set.
Safety Glasses Should be Worn When Working Around Cement.

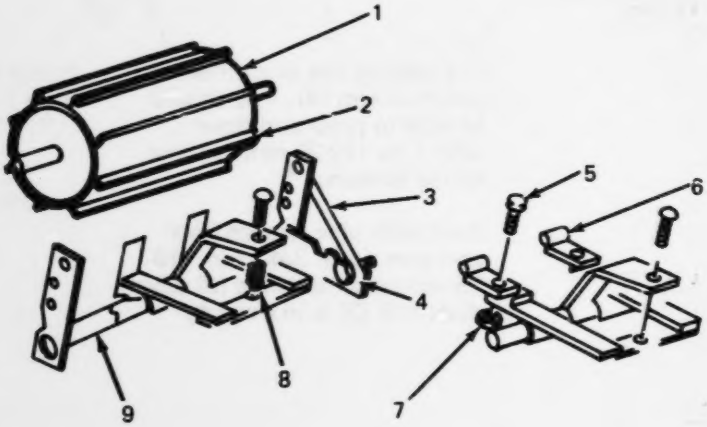
CEMENT SYSTEM.

8-12. SPRING TINE MAINTENANCE (Continued).

NOTE

Before you begin maintenance, be sure hammers (6) have 1/8 in. to 1/4 in. clearance from drum (1), not being lifted by vane (2).

LOCATION/ITEM	ACTION	REMARKS
A. INSPECTION.		
1. Two hammers (6).	Inspect for: a. Worn heads. b. Breaks. c. Bends. d. Missing parts. e. Hammer to drum clearance of 1/8 in. to 1/4 in.	Replace if necessary (Part B).



LEGEND:

1. DRUM
2. VANE
3. SHAFT LINK
4. ARM
5. SCREW
6. HAMMER (2)
7. NUT
8. SPRING
9. SHAFT

TA 076349

CEMENT SYSTEM.

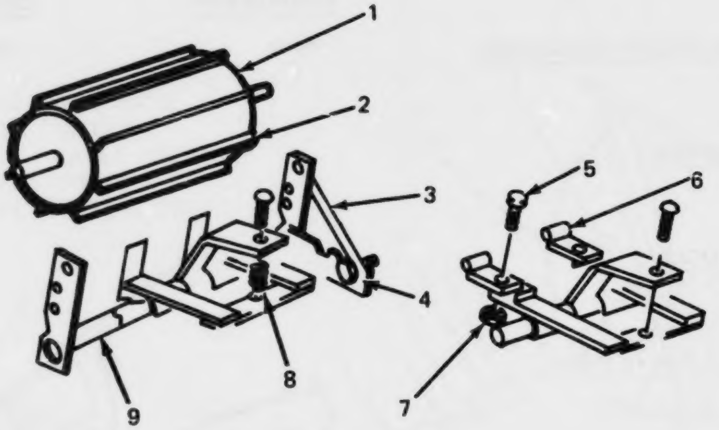
8-12. SPRING TINE MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS
A. INSPECTION (Continued).		
2. Notched arm (4).	Check that arm can be pressed down 3/4–1 in. (19-25 mm) when shaft link (3) is in notch.	Adjust if necessary (Part C).
B. HAMMER REPLACEMENT.		
	CAUTION Always check adjustment after replacing a hammer.	
3. Shaft link (3).	Remove from notch.	
4. Screw (5) and nut (7).	Unscrew and remove. Remove hammer (6).	
5. Hammer (6).	Attach to spring tine with screw (5) and nut (7). Tighten.	
C. ADJUSTMENT.		
6. Shaft link (3).	Try placing link in a different. notch of arm (4). You should be able to press arm down 3/4–1 in. (19-25 mm) against spring tension.	If this does not work, go to Step 7.
7. Shaft (9).	Turn with pipe wrench until arm goes down 3/4–1 in. (19-25 mm) against spring (8) when shaft link (3) is in a notch.	

CEMENT SYSTEM.

8-12. SPRING TINE MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS



LEGEND:

1. DRUM
2. VANE
3. SHAFT LINK
4. ARM
5. SCREW
6. HAMMER (2)
7. NUT
8. SPRING
9. SHAFT

TA 076350

8-13. METER REGISTER CABLE MAINTENANCE.

THIS TASK COVERS: (APPROXIMATE TIME REQUIRED FOLLOWS TASK DESCRIPTION.)

a. Removal.	(5)
b. Lubrication.	(5)
c. Installation.	(10)
d. Operational Check.	(5)
	25 Minutes Total.

INITIAL SETUP

EQUIPMENT CONDITION PARAGRAPH	CONDITION DESCRIPTION
None.	None.

APPLICABLE CONFIGURATIONS

M919.

TEST EQUIPMENT

None.

SPECIAL TOOLS

None.

MATERIALS/PARTS (P/N)

GAA (See Appendix C).

PERSONNEL REQUIRED

One (MOS-62B20).

REFERENCES (TM)

LO 5-3895-372-12.
TM 5-3895-372-10.
TM 5-3895-372-20P.
TM 9-2320-273-10.

TROUBLESHOOTING REFERENCES

Table 8-1.

SPECIAL ENVIRONMENTAL CONDITIONS

Vehicle Parked on Level Ground.

GENERAL SAFETY INSTRUCTIONS

Engine Off.
Transmission in Neutral.
Parking Brake Set.

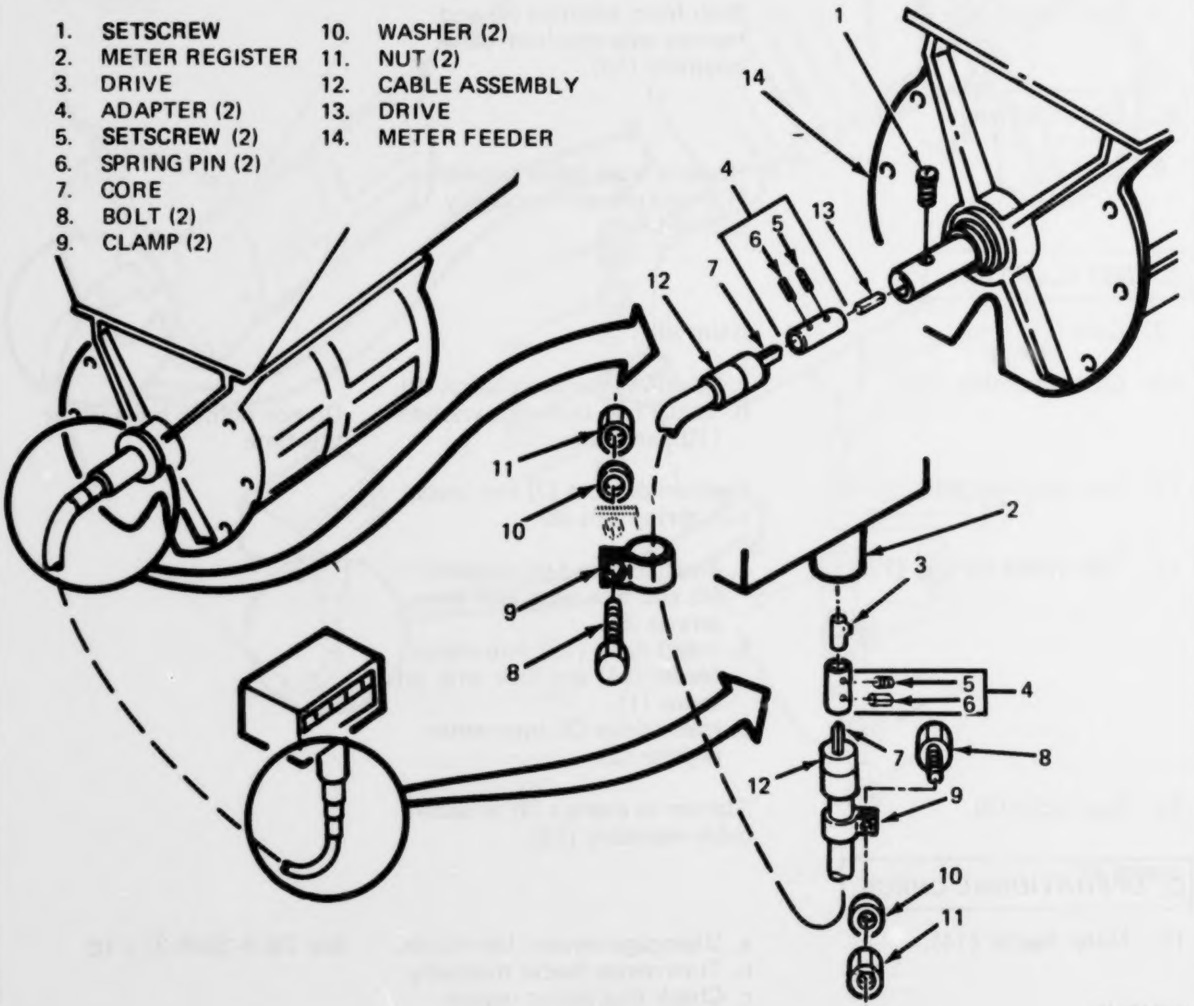
CEMENT SYSTEM.

8-13. METER REGISTER CABLE MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS
A. REMOVAL.		
1. Clamp (9), bolt (8), washer (10), and nut (11).	Loosen and remove.	At meter register (2).
2. Cable assembly (12).	Remove from meter register (2).	
3. Access panel to meter feeder cable.	Open.	Cable passes through slot in bottom.

LEGEND:

1. SETSCREW
2. METER REGISTER
3. DRIVE
4. ADAPTER (2)
5. SETSCREW (2)
6. SPRING PIN (2)
7. CORE
8. BOLT (2)
9. CLAMP (2)
10. WASHER (2)
11. NUT (2)
12. CABLE ASSEMBLY
13. DRIVE
14. METER FEEDER



CEMENT SYSTEM.

8-13. METER REGISTER CABLE MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS
A. REMOVAL (Continued).		
4. Setscrew (1).	Loosen.	Turn meter feeder (14) until setscrew (1) is accessible.
5. Clamp (9), bolt (8), washer (10), and nut (11).	a. Loosen and remove. b. Pull cable assembly (12) from meter feeder (14).	
6. Two adapters (4).	Loosen two setscrews (5) and remove two drives (3) and (13).	
7. Two spring pins (6).	Push from adapters (4) and remove adapters from cable assembly (12).	
B. LUBRICATION.		
8. Core (7).	Remove from cable assembly (12) and grease thoroughly with GAA.	
C. INSTALLATION.		
9. Core (7).	Reinstall.	
10. Cable assembly (12).	a. Position into two clamps (9). b. Install two bolts (8), washers (10), and nuts (11).	Do not tighten bolts (8) at this time.
11. Two adapters (4).	Position on core (7) and install two spring pins (6).	
12. Two drives (3) and (13).	a. Position into two adapters (4) and lock with two setscrews (5). b. Insert drive (13) into meter feeder (14) and lock with setscrew (1). c. Insert drive (3) into meter register (2).	
13. Two bolts (8).	Tighten at clamps (9) to secure cable assembly (12).	
D. OPERATIONAL CHECK.		
14. Meter feeder (14).	a. Disengage cement bin clutch. b. Turn meter feeder manually. c. Check that meter register count changes with each turn.	See TM 5-3895-372-10.

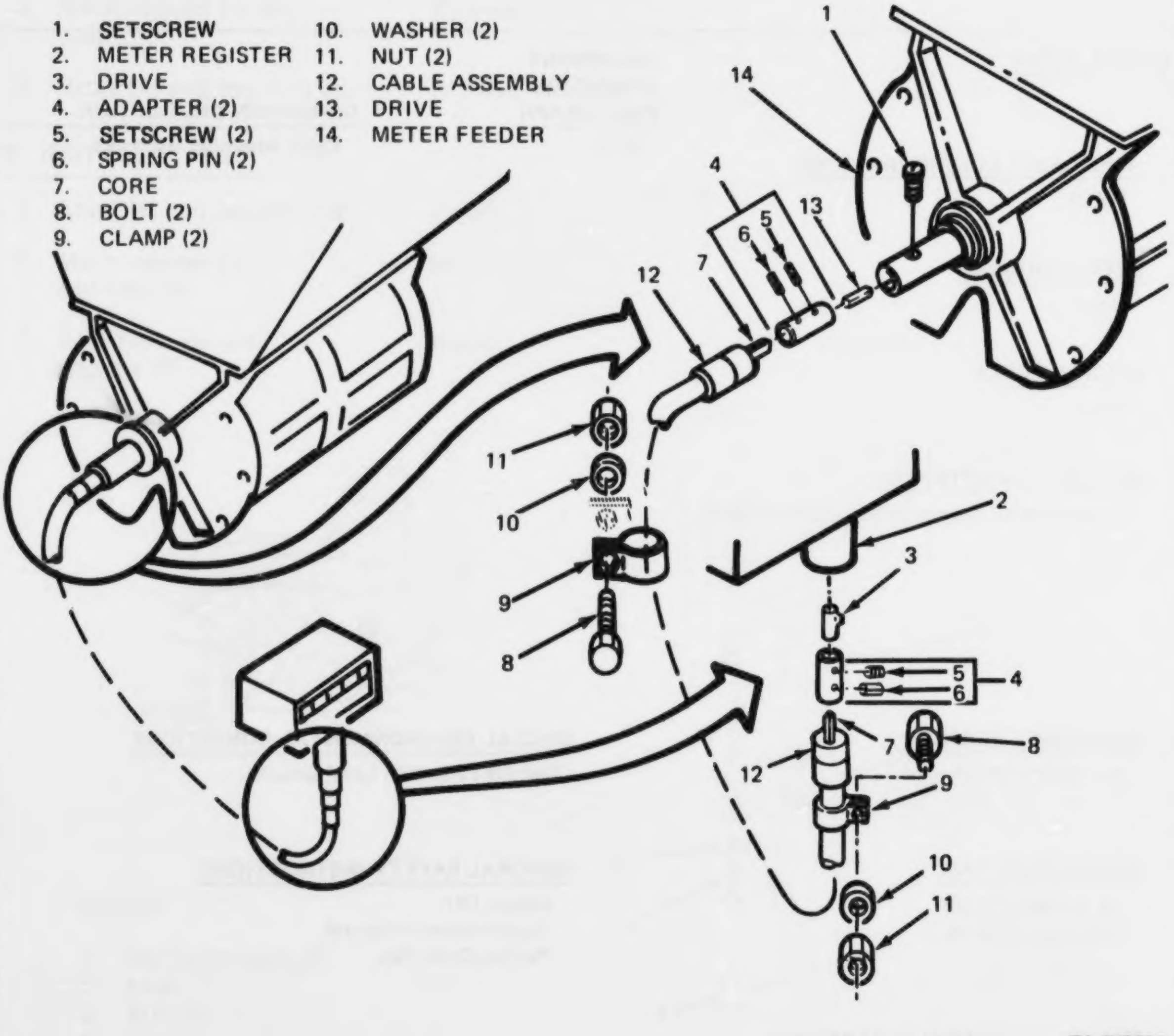
CEMENT SYSTEM.

8-13. METER REGISTER CABLE MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS

LEGEND:

1.	SETSCREW	10.	WASHER (2)
2.	METER REGISTER	11.	NUT (2)
3.	DRIVE	12.	CABLE ASSEMBLY
4.	ADAPTER (2)	13.	DRIVE
5.	SETSCREW (2)	14.	METER FEEDER
6.	SPRING PIN (2)		
7.	CORE		
8.	BOLT (2)		
9.	CLAMP (2)		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TA 076352

CEMENT SYSTEM.

8-14. CEMENT METER REGISTER REPLACEMENT.

THIS TASK COVERS: (APPROXIMATE TIME REQUIRED FOLLOWS TASK DESCRIPTION.)

a. Removal.	(10)
b. Installation.	(10)
	20 Minutes Total.

INITIAL SETUP

EQUIPMENT CONDITION PARAGRAPH	CONDITION DESCRIPTION
8-13.	Cable Assembly Removed.

APPLICABLE CONFIGURATIONS

M919.

TEST EQUIPMENT

None.

SPECIAL TOOLS

None.

MATERIALS/PARTS (P/N)

Cement Meter Register, NP5016004 (50663).

PERSONNEL REQUIRED

One (MOS-62B20).

REFERENCES (TM)

TM 5-3895-372-20P.
TM 9-2320-273-10.

TROUBLESHOOTING REFERENCES

Table 8-1.

SPECIAL ENVIRONMENTAL CONDITIONS

Vehicle Parked on Level Ground.

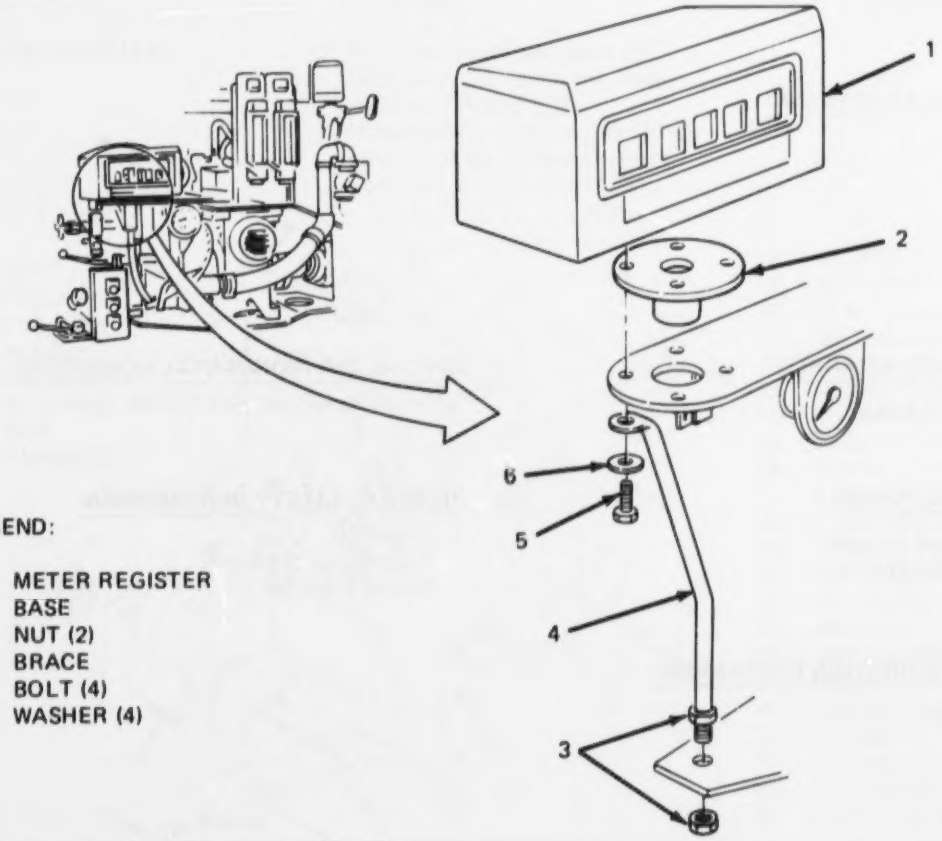
GENERAL SAFETY INSTRUCTIONS

Engine Off.
Transmission in Neutral.
Parking Brake Set.

CEMENT SYSTEM.

8-14. CEMENT METER REGISTER REPLACEMENT (Continued).

LOCATION/ITEM	ACTION	REMARKS
A. REMOVAL.		
1. Four bolts (5) and washers (6).	Remove.	
2. Meter register (1) and base (2).	Remove.	
3. Brace (4) and two nuts (3).	Remove if necessary.	
B. INSTALLATION.		
4. Brace (4) and two nuts (3).	Install.	
5. Meter register (1) and base (2).	Set in place.	
6. Four bolts (5) and washers (6).	Install.	Tighten.



LEGEND:

1. METER REGISTER
2. BASE
3. NUT (2)
4. BRACE
5. BOLT (4)
6. WASHER (4)

TA 076353

CEMENT SYSTEM.

8-15. CEMENT SYSTEM DRIVE MAINTENANCE.

THIS TASK COVERS: (APPROXIMATE TIME REQUIRED FOLLOWS TASK DESCRIPTION.)

a. Removal.	(30)
b. Disassembly.	(20)
c. Cleaning and Inspection.	(15)
d. Assembly.	(20)
e. Installation.	(30)
	115 Minutes Total.

INITIAL SETUP

APPLICABLE CONFIGURATIONS

M919.

TEST EQUIPMENT

None.

SPECIAL TOOLS

None.

MATERIALS/PARTS (P/N)

None.

EQUIPMENT CONDITION PARAGRAPH	CONDITION DESCRIPTION
None.	None.

PERSONNEL REQUIRED

One (MOS-62B20).

REFERENCES (TM)

TM 5-3895-372-20P.
TM 9-2320-273-10.

TROUBLESHOOTING REFERENCES

Table 8-1.

SPECIAL ENVIRONMENTAL CONDITIONS

Vehicle Parked on Level Ground.

GENERAL SAFETY INSTRUCTIONS

Engine Off.
Transmission in Neutral.
Parking Brake Set.

CEMENT SYSTEM.

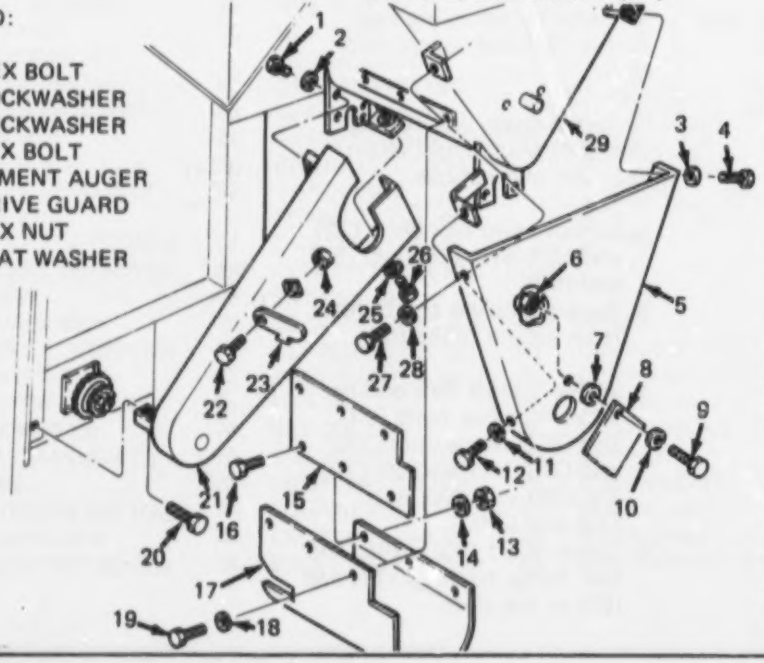
8-15. CEMENT SYSTEM DRIVE MAINTENANCE (Continued).

A. REMOVAL.

LOCATION/ITEM	ACTION	REMARKS
1. Cement auger drive guard (5).	a. Remove three hex bolts (4), (12), and (27) with lockwashers (3), (11), and (28). b. Remove cement auger drive guard (5) from end of cement bin (29). c. If necessary, remove access cover (8) by removing hex bolt (9), flat washer (10) and hex nut (6).	
2. Front guard (15) and rear guard (17).	a. Unscrew six hex bolts (19) and lockwashers (18) and remove assembled front guard (15) and rear guard (17). b. If necessary, separate by removing three hex bolts (16), lockwashers (14), and hex nuts (13).	
3. Bin drive guard (21).	a. Remove three hex bolts (1), (20), and (26) with two lockwashers (2) and (25). b. If necessary, remove jaw clutch latch (23) by unscrewing hex bolt (22) and locknut (24).	

LEGEND:

1. HEX BOLT
2. LOCKWASHER
3. LOCKWASHER
4. HEX BOLT
5. CEMENT AUGER DRIVE GUARD
6. HEX NUT
7. FLAT WASHER



8. ACCESS COVER
9. HEX BOLT
10. FLAT WASHER
11. LOCKWASHER
12. HEX BOLT
13. HEX NUT (3)
14. LOCKWASHER (3)
15. FRONT GUARD
16. HEX BOLT (3)
17. REAR GUARD
18. LOCKWASHER (6)
19. HEX BOLT (6)
20. HEX BOLT
21. BIN DRIVE GUARD
22. HEX BOLT
23. JAW CLUTCH LATCH
24. LOCKNUT
25. LOCKWASHER
26. HEX BOLT
27. HEX BOLT
28. LOCKWASHER
29. CEMENT BIN

TA 076354

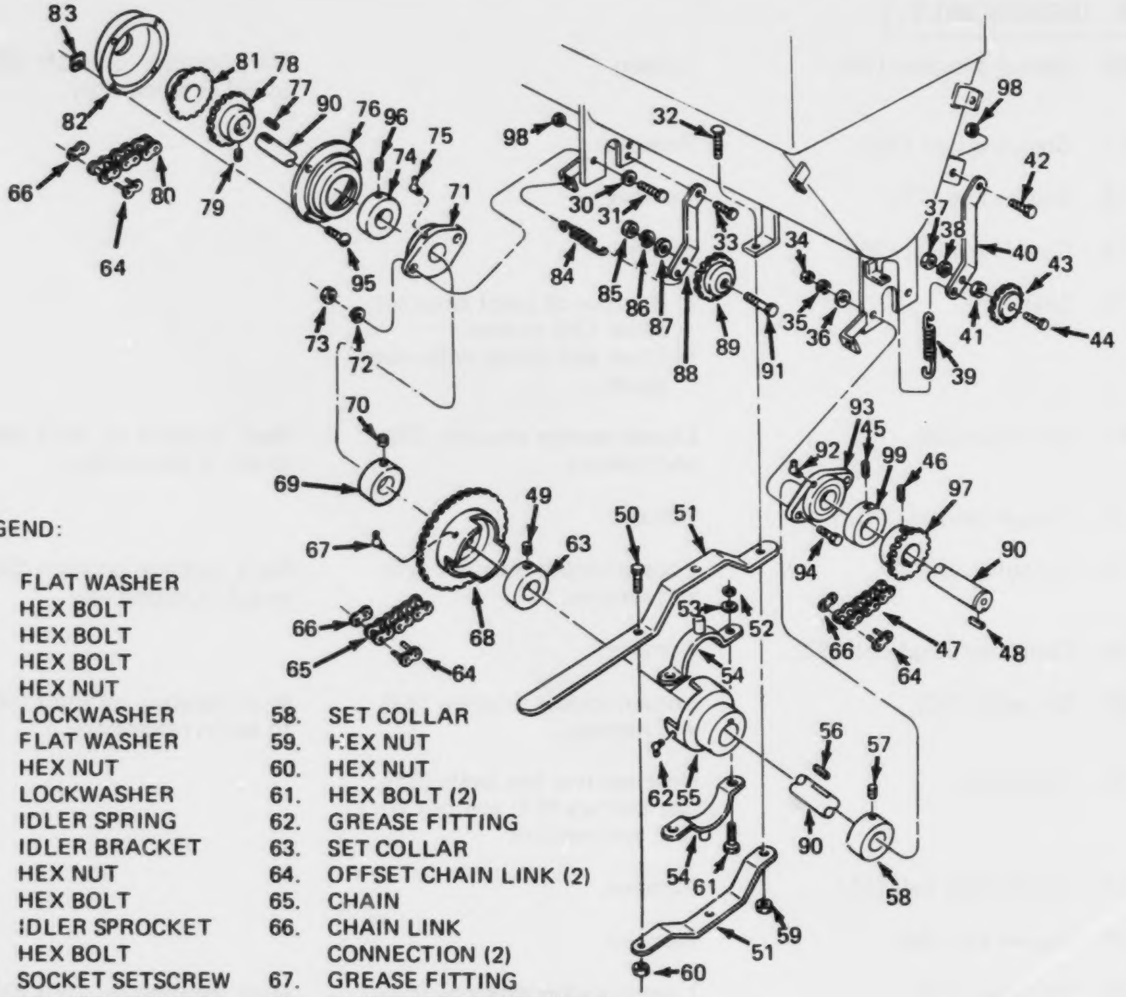
8-15. CEMENT SYSTEM DRIVE MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS
A. REMOVAL (Continued).		
4. Idler spring (39).	Remove.	
5. Idler Bracket (40).	Unscrew hex bolt (42) with locknut (98).	
6. Idler sprocket (43).	Remove hex bolt (44), two hex nuts (37) and (41), and lockwasher (38).	
7. Two chains (47) and (65).	Unfasten two chain link connections (66) from offset chain links (64) and remove.	
8. Sprocket (97).	Loosen socket setscrew (46) and pry sprocket (97) and square key (48) off shaft (90).	
9. Idler spring (84).	Remove.	
10. Idler bracket (88).	Unscrew hex bolt (33) from locknut (98) and remove.	
11. Idler sprocket (89).	Remove hex bolt (91), hex nut (85), lockwasher (86) and flat washer (87).	
12. Coupling cover (76) and (82).	Separate by removing four screws (95) and square nuts (83).	
13. Chain (80).	Unfasten chain link connection (66) from offset chain link (64) and remove.	
14. Clutch handle (51).	a. Remove two hex bolts (32) and (50) with hex nuts (59) and (60). b. Separate halves and remove from pins on yoke (54).	
15. Shaft (90).	a. Support shaft (90) and remove four hex bolts (94) and (31), flat washers (30) and (36), lockwashers (72) and (35) with hex nuts (73) and (34). b. Lower shaft (90) sliding the two flange bearings (71) and (93) in the slots.	

CEMENT SYSTEM.

8-15. CEMENT SYSTEM DRIVE MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS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LEGEND:

30. FLAT WASHER
31. HEX BOLT
32. HEX BOLT
33. HEX BOLT
34. HEX NUT
35. LOCKWASHER
36. FLAT WASHER
37. HEX NUT
38. LOCKWASHER
39. IDLER SPRING
40. IDLER BRACKET
41. HEX NUT
42. HEX BOLT
43. IDLER SPROCKET
44. HEX BOLT
45. SOCKET SETSCREW
46. SOCKET SETSCREW
47. CHAIN
48. SQUARE KEY
49. SOCKET SETSCREW
50. HEX BOLT
51. CLUTCH HANDLE
52. HEX NUT (2)
53. FLAT WASHER (2)
54. YOKE
55. CLUTCH SLIDE HALF
56. SQUARE KEY
57. SOCKET SETSCREW
58. SET COLLAR
59. HEX NUT
60. HEX NUT
61. HEX BOLT (2)
62. GREASE FITTING
63. SET COLLAR
64. OFFSET CHAIN LINK (2)
65. CHAIN
66. CHAIN LINK CONNECTION (2)
67. GREASE FITTING
68. CLUTCH SPROCKET HALF
69. SET COLLAR
70. SOCKET SETSCREW
71. FLANGE BEARING
72. LOCKWASHER (2)
73. HEX NUT (2)
74. SET COLLAR
75. GREASE FITTING
76. COUPLING COVER
77. SQUARE KEY
78. COUPLING HALF
79. SOCKET SETSCREW
80. CHAIN
81. COUPLING HALF
82. COUPLING COVER
83. SQUARE NUT (4)
84. IDLER SPRING
85. HEX NUT
86. LOCKWASHER
87. FLAT WASHER
88. IDLER BRACKET
89. IDLER SPROCKET
90. SHAFT
91. HEX BOLT
92. GREASE FITTING
93. FLANGE BEARING
94. HEX BOLT
95. SCREW (4)
96. SOCKET SETSCREW
97. SPROCKET
98. LOCKNUT
99. SET COLLAR

TA 076355

8-15. CEMENT SYSTEM DRIVE MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS
B. DISASSEMBLY.		
16. Socket setscrew (79).	Loosen.	Mark location on shaft (90) to aid in reassembly.
17. Coupling half (78).	Remove.	
18. Square key (77).	Remove.	
19. Coupling cover (76).	Remove.	
20. Shaft (90).	a. Remove all paint from set collar (74) to end. b. Clean and polish with emery paper.	
21. Set collar (74).	Loosen socket setscrew (96) and remove.	Mark location on shaft (90) to aid in reassembly.
22. Flange bearing (71).	Remove.	
23. Set collar (69).	Loosen socket setscrew (70) and remove.	Mark location on shaft (90) to aid in reassembly.
24. Clutch sprocket half (68).	Remove.	
25. Set collar (63).	Loosen socket setscrew (49) and remove.	Mark location on shaft (90) to aid in reassembly.
26. Yoke (54).	Unscrew two hex bolts (61), flat washers (53) and hex nuts (52) and remove.	
27. Clutch slide half (55).	Remove.	
28. Square key (56).	Remove.	
29. Set collar (58).	Loosen socket setscrew (57) and remove.	Mark location on shaft (90) to aid in reassembly.

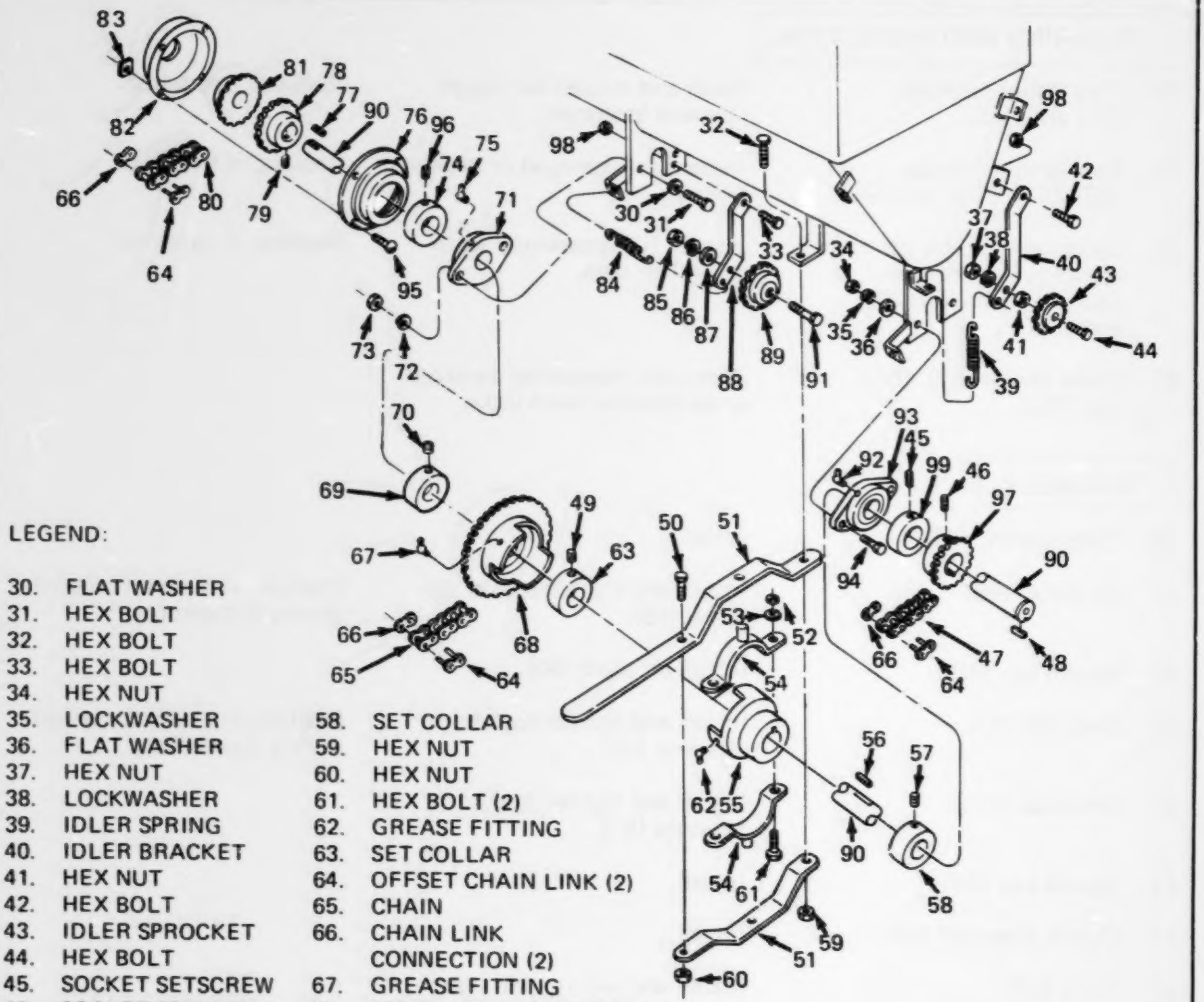
NOTE

In steps 30 and 31, the parts are removed from the right end of the shaft (90).

LOCATION/ITEM	ACTION	REMARKS
30. Set collar (99).	Loosen socket setscrew (45) and remove.	Mark location on shaft (90) to aid in reassembly.
31. Flange bearing (93).	Remove.	

8-15. CEMENT SYSTEM DRIVE MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS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LEGEND:

30. FLAT WASHER
31. HEX BOLT
32. HEX BOLT
33. HEX BOLT
34. HEX NUT
35. LOCKWASHER
36. FLAT WASHER
37. HEX NUT
38. LOCKWASHER
39. IDLER SPRING
40. IDLER BRACKET
41. HEX NUT
42. HEX BOLT
43. IDLER SPROCKET
44. HEX BOLT
45. SOCKET SETSCREW
46. SOCKET SETSCREW
47. CHAIN
48. SQUARE KEY
49. SOCKET SETSCREW
50. HEX BOLT
51. CLUTCH HANDLE
52. HEX NUT (2)
53. FLAT WASHER (2)
54. YOKE
55. CLUTCH SLIDE HALF
56. SQUARE KEY
57. SOCKET SETSCREW
58. SET COLLAR
59. HEX NUT
60. HEX NUT
61. HEX BOLT (2)
62. GREASE FITTING
63. SET COLLAR
64. OFFSET CHAIN LINK (2)
65. CHAIN
66. CHAIN LINK CONNECTION (2)
67. GREASE FITTING
68. CLUTCH SPROCKET HALF
69. SET COLLAR
70. SOCKET SETSCREW
71. FLANGE BEARING
72. LOCKWASHER (2)
73. HEX NUT (2)
74. SET COLLAR
75. GREASE FITTING
76. COUPLING COVER
77. SQUARE KEY
78. COUPLING HALF
79. SOCKET SETSCREW
80. CHAIN
81. COUPLING HALF
82. COUPLING COVER
83. SQUARE NUT (4)
84. IDLER SPRING
85. HEX NUT
86. LOCKWASHER
87. FLAT WASHER
88. IDLER BRACKET
89. IDLER SPROCKET
90. SHAFT
91. HEX BOLT
92. GREASE FITTING
93. FLANGE BEARING
94. HEX BOLT
95. SCREW (4)
96. SOCKET SETSCREW
97. SPROCKET
98. LOCKNUT
99. SET COLLAR

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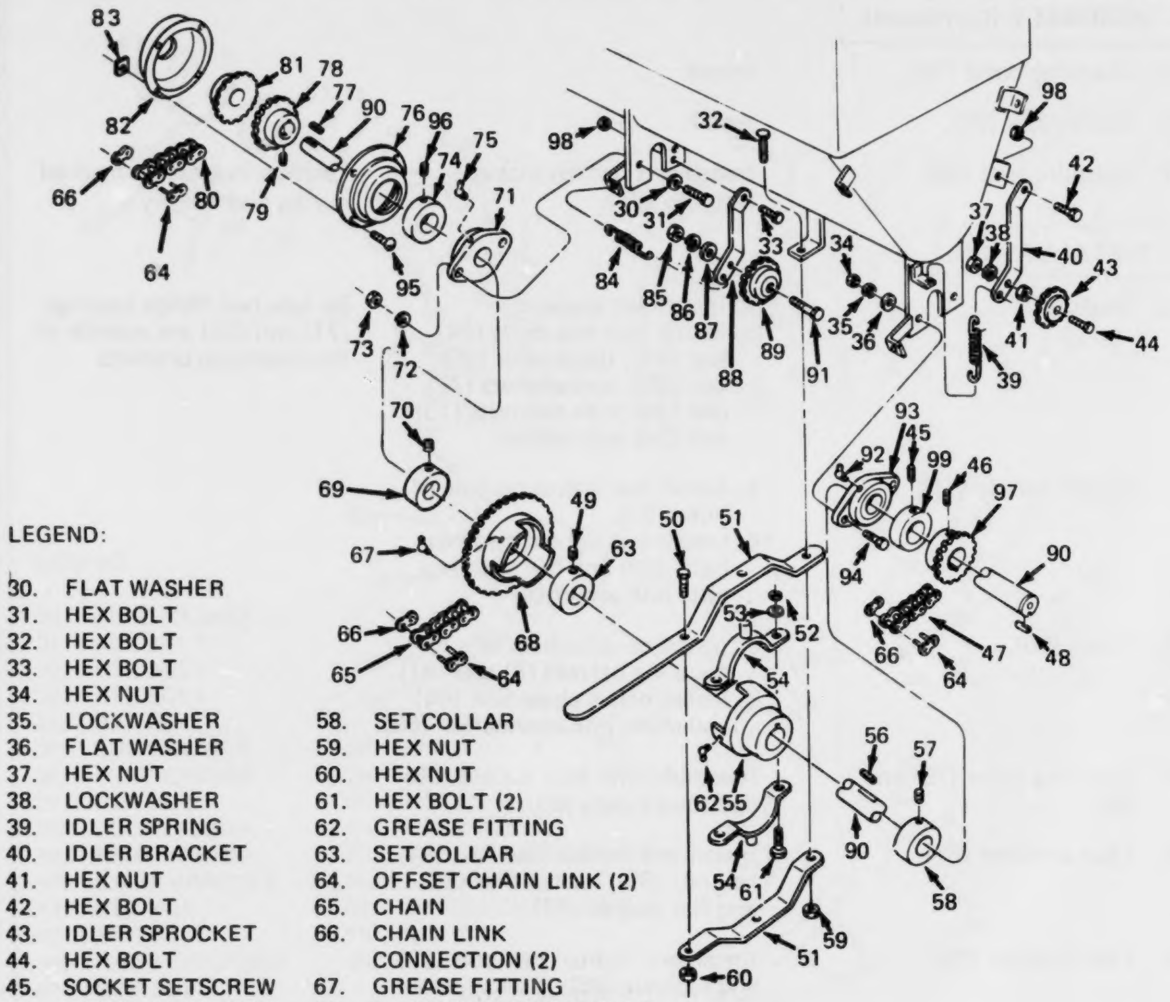
8-15. CEMENT SYSTEM DRIVE MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS
C. CLEANING AND INSPECTION.		
32. Two flange bearings (71) and (93).	Clean and inspect for roughness and looseness.	Replace, if required.
33. Four grease fittings (62), (67), (75), and (92).	Inspect for damaged or broken fittings.	Replace, if required.
34. Sprocket (97), clutch sprocket half (68), and two idler sprockets (43) and (89).	Inspect for excessively worn or broken cogs.	Replace, if required.
35. Three chains (47), (65), and (80).	Clean and inspect for damaged or excessively worn links.	
D. ASSEMBLY.		
36. Flange bearing (93).	Install.	
37. Set collar (99).	Install and tighten socket setscrew (45).	Position in location marked during disassembly.
38. Square key (48).	Install on shaft (90).	
39. Sprocket (97).	Install and tighten socket setscrew (46).	Position in location marked during disassembly.
40. Set collar (58).	Install and tighten socket setscrew (57).	
41. Square key (56).	Install.	
42. Clutch slide half (55).	Install.	
43. Yoke (54).	Install and secure with two hex bolts (61), flat washers (53), and hex nuts (52).	
44. Set collar (63).	Install and tighten socket setscrew (49).	Position in location marked during disassembly.
45. Clutch sprocket half (68).	Install.	
46. Set collar (69).	Install and tighten socket setscrew (70).	Position in location marked during disassembly.
47. Flange Bearing (71).	Install.	
48. Set collar (74).	Install and tighten socket setscrew (96).	Position in location marked during disassembly.

8-15. CEMENT SYSTEM DRIVE MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS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LEGEND:

30. FLAT WASHER
31. HEX BOLT
32. HEX BOLT
33. HEX BOLT
34. HEX NUT
35. LOCKWASHER
36. FLAT WASHER
37. HEX NUT
38. LOCKWASHER
39. IDLER SPRING
40. IDLER BRACKET
41. HEX NUT
42. HEX BOLT
43. IDLER SPROCKET
44. HEX BOLT
45. SOCKET SETSCREW
46. SOCKET SETSCREW
47. CHAIN
48. SQUARE KEY
49. SOCKET SETSCREW
50. HEX BOLT
51. CLUTCH HANDLE
52. HEX NUT (2)
53. FLAT WASHER (2)
54. YOKE
55. CLUTCH SLIDE HALF
56. SQUARE KEY
57. SOCKET SETSCREW
58. SET COLLAR
59. HEX NUT
60. HEX NUT
61. HEX BOLT (2)
62. GREASE FITTING
63. SET COLLAR
64. OFFSET CHAIN LINK (2)
65. CHAIN
66. CHAIN LINK CONNECTION (2)
67. GREASE FITTING
68. CLUTCH SPROCKET HALF
69. SET COLLAR
70. SOCKET SETSCREW
71. FLANGE BEARING
72. LOCKWASHER (2)
73. HEX NUT (2)
74. SET COLLAR
75. GREASE FITTING
76. COUPLING COVER
77. SQUARE KEY
78. COUPLING HALF
79. SOCKET SETSCREW
80. CHAIN
81. COUPLING HALF
82. COUPLING COVER
83. SQUARE NUT (4)
84. IDLER SPRING
85. HEX NUT
86. LOCKWASHER
87. FLAT WASHER
88. IDLER BRACKET
89. IDLER SPROCKET
90. SHAFT
91. HEX BOLT
92. GREASE FITTING
93. FLANGE BEARING
94. HEX BOLT
95. SCREW (4)
96. SOCKET SETSCREW
97. SPROCKET
98. LOCKNUT
99. SET COLLAR

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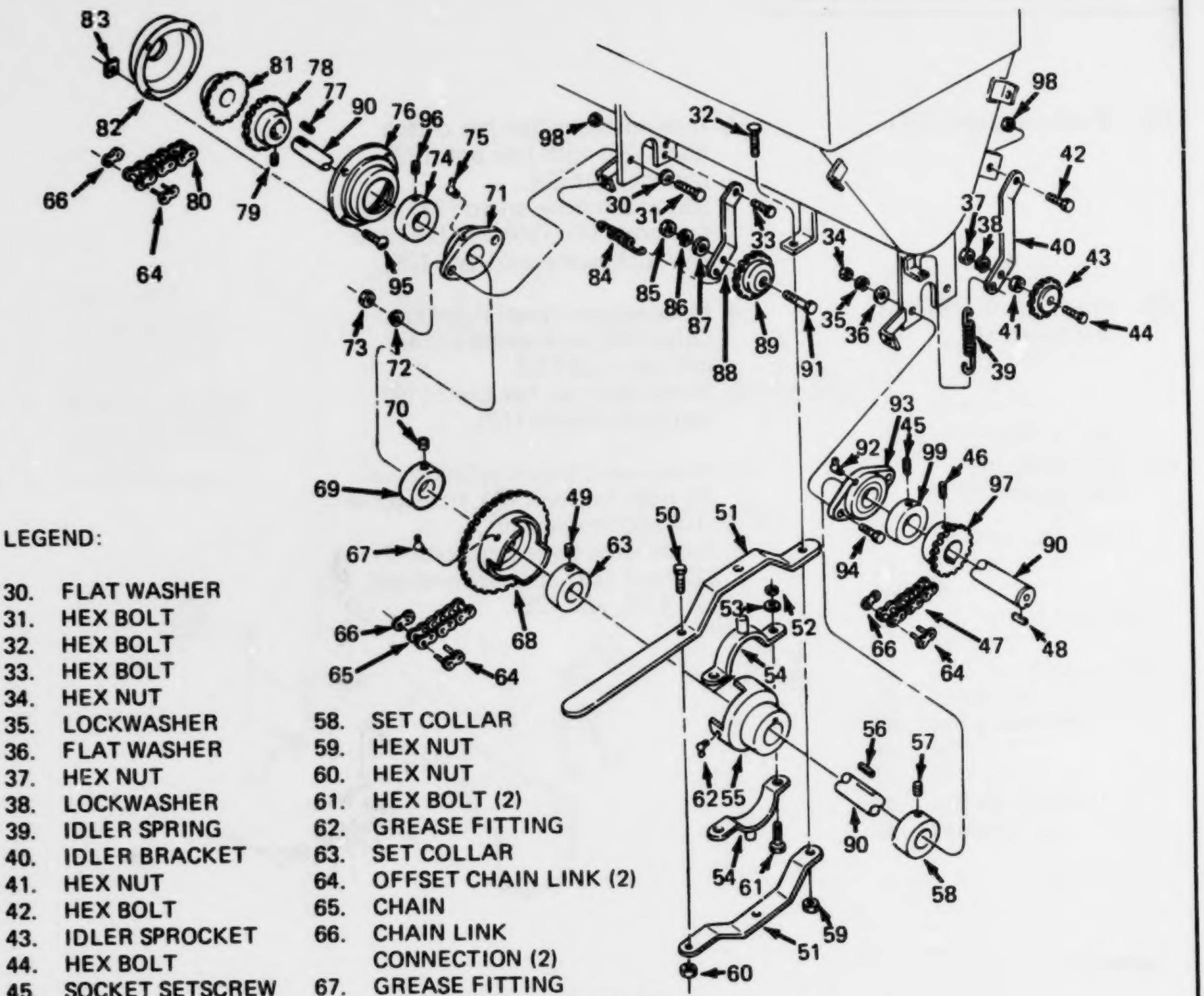
8-15. CEMENT SYSTEM DRIVE MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS
D. ASSEMBLY (Continued).		
49. Coupling cover (76).	Install.	
50. Square key (77).	Install.	
51. Coupling half (78).	Install and tighten socket setscrew (79).	Position in location marked during disassembly.
E. INSTALLATION.		
52. Shaft (90).	a. Install and support. b. Install four hex bolts (94) and (31), flat washer (30) and (36), lockwashers (72) and (35) with hex nuts (73) and (34) and tighten.	Be sure two flange bearings (71) and (93) are outside of the mounting brackets.
53. Clutch handle (51).	a. Install two halves on pins of yoke (54). b. Install and tighten two hex bolts (32) and 50) with hex nuts (59) and (60).	
54. Chain (80).	a. Install on sprockets of coupling halves (78) and (81). b. Install offset chain link (64) and chain link connection (66).	
55. Coupling cover (76) and (82).	Assemble with four screws (95) and square nuts (83).	
56. Idler sprocket (89).	Install and tighten hex bolt (91), hex nut (85), lockwasher (86) and flat washer (87).	
57. Idler bracket (88).	Install and tighten hex bolt (33) and locknut (98).	
58. Idler spring (84).	Install.	
59. Idler sprocket (43).	Install hex bolt, two hex nuts (37) and (41), and lockwasher (38).	
60. Idler bracket (40).	Install and tighten hex bolt (42) and locknut (98).	
61. Idler spring (39).	Install.	
62. Two chains (47) and (65).	a. Install around sprockets and over top of two idler sprockets (43) and (89). b. Install two offset chain links (64) and chain link connections (66).	

CEMENT SYSTEM.

8-15. CEMENT SYSTEM DRIVE MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS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LEGEND:

30. FLAT WASHER
31. HEX BOLT
32. HEX BOLT
33. HEX BOLT
34. HEX NUT
35. LOCKWASHER
36. FLAT WASHER
37. HEX NUT
38. LOCKWASHER
39. IDLER SPRING
40. IDLER BRACKET
41. HEX NUT
42. HEX BOLT
43. IDLER SPROCKET
44. HEX BOLT
45. SOCKET SETSCREW
46. SOCKET SETSCREW
47. CHAIN
48. SQUARE KEY
49. SOCKET SETSCREW
50. HEX BOLT
51. CLUTCH HANDLE
52. HEX NUT (2)
53. FLAT WASHER (2)
54. YOKE
55. CLUTCH SLIDE HALF
56. SQUARE KEY
57. SOCKET SETSCREW
58. SET COLLAR
59. HEX NUT
60. HEX NUT
61. HEX BOLT (2)
62. GREASE FITTING
63. SET COLLAR
64. OFFSET CHAIN LINK (2)
65. CHAIN
66. CHAIN LINK CONNECTION (2)
67. GREASE FITTING
68. CLUTCH SPROCKET HALF
69. SET COLLAR
70. SOCKET SETSCREW
71. FLANGE BEARING
72. LOCKWASHER (2)
73. HEX NUT (2)
74. SET COLLAR
75. GREASE FITTING
76. COUPLING COVER
77. SQUARE KEY
78. COUPLING HALF
79. SOCKET SETSCREW
80. CHAIN
81. COUPLING HALF
82. COUPLING COVER
83. SQUARE NUT (4)
84. IDLER SPRING
85. HEX NUT
86. LOCKWASHER
87. FLAT WASHER
88. IDLER BRACKET
89. IDLER SPROCKET
90. SHAFT
91. HEX BOLT
92. GREASE FITTING
93. FLANGE BEARING
94. HEX BOLT
95. SCREW (4)
96. SOCKET SETSCREW
97. SPROCKET
98. LOCKNUT
99. SET COLLAR

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8-15. CEMENT SYSTEM DRIVE MAINTENANCE (Continued).

E. INSTALLATION (Continued).

LOCATION/ITEM	ACTION	REMARKS
63. Bin drive guard (21).	a. If removed, install jaw clutch latch (23) with hex bolt (22) and locknut (24). b. Install bin drive guard (21) with hex bolts (1), (20) and (26) and two lockwashers (2) and (25).	
64. Front guard (15) and rear guard (17).	a. If separated, install three hex bolts (16), lockwashers (14), and hex nuts (13). b. Install with six hex bolts (19), and lockwashers (18).	
65. Cement auger drive guard (5).	a. If removed, install access cover (8) with hex bolt (9), flat washer (10) and hex nut (6). b. Install with three hex bolts (4), (12) and (27) and lockwashers (3), (11), and (28).	

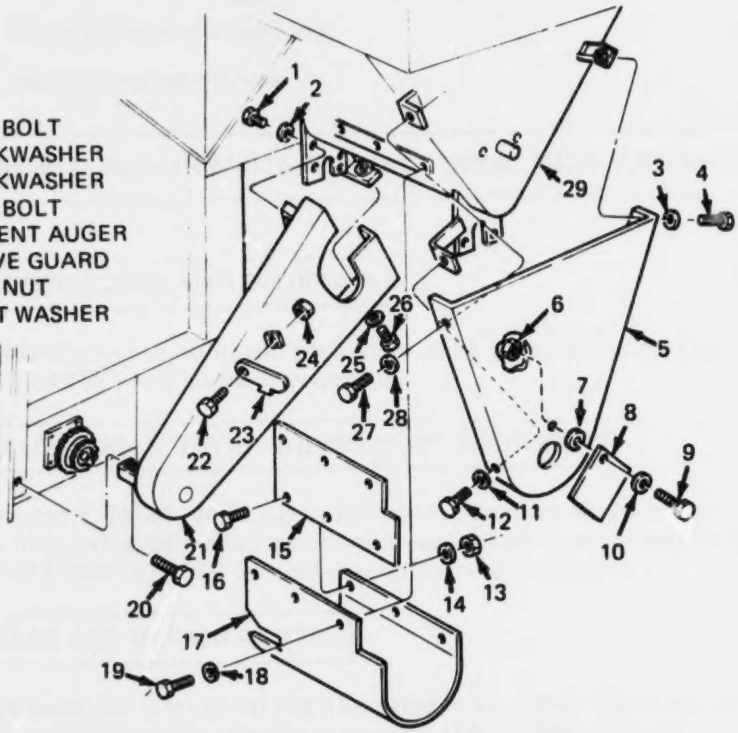
CEMENT SYSTEM.

8-15. CEMENT SYSTEM DRIVE MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS

LEGEND:

1. HEX BOLT
2. LOCKWASHER
3. LOCKWASHER
4. HEX BOLT
5. CEMENT AUGER DRIVE GUARD
6. HEX NUT
7. FLAT WASHER
8. ACCESS COVER
9. HEX BOLT
10. FLAT WASHER
11. LOCKWASHER
12. HEX BOLT
13. HEX NUT (3)
14. LOCKWASHER (3)
15. FRONT GUARD
16. HEX BOLT (3)
17. REAR GUARD
18. LOCKWASHER (6)
19. HEX BOLT (6)
20. HEX BOLT
21. BIN DRIVE GUARD
22. HEX BOLT
23. JAW CLUTCH LATCH
24. LOCKNUT
25. LOCKWASHER
26. HEX BOLT
27. HEX BOLT
28. LOCKWASHER
29. CEMENT BIN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CHAPTER 9

MIXER-AUGER SYSTEM

9-1. OVERVIEW.

This chapter provides you with the following information related to mixer-auger system maintenance:

- *a.* All required special tools and equipment.
- *b.* Troubleshooting procedures.
- *c.* Maintenance procedures.

Section I REPAIR PARTS, SPECIAL TOOLS, TMDE, AND SUPPORT EQUIPMENT

9-2. COMMON TOOLS AND EQUIPMENT.

For authorized common tools and equipment, refer to the Modified Table of Organization and Equipment (MTOE) applicable to your unit.

9-3. SPECIAL TOOLS, TMDE, AND SUPPORT EQUIPMENT.

The special tools, TMDE, and support equipment for mixer-auger system maintenance procedures described in this chapter are limited to mixer-auger wear gage. (Refer to Organizational Maintenance RPSTL, TM 5-3895-372-20P for tool description and illustration.)

9-4. SPARES AND REPAIR PARTS.

Spares and repair parts are listed and illustrated in the Repair Parts and Special Tools List covering Organizational Maintenance for this equipment (TM 5-3895-372-20P).

Section II TROUBLESHOOTING

9-5. INTRODUCTION.

Troubleshooting procedures for the mixer-auger system are given in Table 9-1. It is arranged by malfunctions, in the following order:

- *a.* Mixer-auger stalls, will not rotate or rotates slowly (Malfunction No. 1).
- *b.* Mixer-auger vibrates (Malfunction No. 2).
- *c.* Swivel ring binds - chute hard to move (Malfunction No. 3).

Table 9-1. Mixer-Auger System Troubleshooting Procedures

MALFUNCTION

TEST OR INSPECTION

CORRECTIVE ACTION

1. MIXER-AUGER STALLS, WILL NOT ROTATE, OR ROTATES SLOWLY:

Step 1. Check that key between motor and auger is in place by locking auger with a pipe wrench and activating control valve slowly.

Step 2. Check hydraulic pressure.

Troubleshoot hydraulic system. See Table 10-1, Malfunction No. 3. Hydraulic pressure should be set at 1900-2000 psi (13,100-13,800 kPa).

Step 3. Inspect for buildup of hardened concrete on auger.

Clean all hardened concrete from auger.

2. MIXER-AUGER VIBRATES:

Step 1. Inspect for buildup of hardened concrete on auger.

Clean all hardened concrete from auger.

Step 2. Inspect bearing and motor attaching hardware for tightness.

Tighten fastening hardware as required (refer to para 9-10).

3. SWIVEL RING BINDS – CHUTE HARD TO MOVE:

Check for dirt, stones, or cement on swivel rings.

Remove material blockage as necessary.

CAUTION

Raise jack slowly. Place wood block and jack under rear plate of mixer-auger. Raise jack until dust seal is broken. Lubricate rings liberally with heavy machine oil. Slowly lower jack.

Section III MAINTENANCE PROCEDURES

9-6. INTRODUCTION.

This section provides you with Organizational Level maintenance procedures for the mixer-auger system of the mixer body. Paragraph 9-7 summarizes the maintenance tasks. Paragraphs 9-8 thru 9-17 contain detailed instructions for each task

9-7. MIXER-AUGER SYSTEM MAINTENANCE TASK SUMMARY.

INITIAL SETUP

APPLICABLE CONFIGURATIONS

M919.

TEST EQUIPMENT

None.

SPECIAL TOOLS

Mixer-Auger Wear Gage, NP2727000 (50663).

MATERIALS/PARTS (P/N)

Wear Blades Kit, NS3427-001 (50663).
Vee Blocks.
Surface Plate.
Tri-Square.
Stub-Shaft, NP3352002 (50663).
Drive Bushing, NP5033056 (50663).
Rubber Trough Repair Kit, NP2923000 (50663).
Miniskirt, NP2730004 (50663).
Shouldered Shaft, NP3352003 (50663).
Rubber Trough Patch Kit, NP3013000 (50663).
Rubber Trough Bottom, NP2186000 (50663).

EQUIPMENT CONDITION PARAGRAPH	CONDITION DESCRIPTION
TM 5-3895-372-10.	Mixer Trough Lowered.
TM 5-3895-372-10.	Cleanup Water Hose Removed From Auger.
9-9A.	Mixer Trough Removed.
9-10A.	Mix Auger Removed.

PERSONNEL REQUIRED

Two (MOS-62B20).

REFERENCES

LO 5-3895-372-12.
TM 5-3895-372-10.
TM 5-3895-372-20P.
TM 9-2320-273-10.

TROUBLESHOOTING REFERENCES

Table 9-1.

SPECIAL ENVIRONMENTAL CONDITIONS

Vehicle Parked on Level Ground.

GENERAL SAFETY INSTRUCTIONS

Engine Off.
Transmission in Neutral.
Park Brake Set.
Wet Cement and Concrete Can Cause Burns.
Safety Glasses Should be Worn When Working Around Cement.

LIST OF TASKS

TASK NO.	TASK	TASK REF	TROUBLESHOOTING REF (TABLE)
1.	Wear Blades Replacement:	9-8	9-1
	A. Removal.	9-8A	
	B. Installation.	9-8B	
2.	Mixing Auger Assembly Maintenance:	9-9	9-1
	A. Removal.	9-9A	
	B. Installation.	9-9B	
	C. Operational Check.	9-9C	

9-7. MIXER-AUGER SYSTEM MAINTENANCE TASK SUMMARY (Continued).

LIST OF TASKS

TASK NO.	TASK	TASK REF	TROUBLESHOOTING REF (TABLE)
3.	Mixer-Auger Maintenance:	9-10	9-1
	A. Removal.	9-10A	
	B. Installation.	9-10B	
	C. Operational check.	9-10C	
4.	Mixer-Auger Repair:	9-11	9-1
	A. Straightening.	9-11A	
	B. Replacement of stub or shouldered shaft.	9-11B	
	C. Replacement of drive bushing.	9-11C	
5.	Rubber Trough Maintenance:	9-12	9-1
	A. Removal.	9-12A	
	B. Installation.	9-12B	
6.	Rubber Trough Repair:	9-13	9-1
	A. Repair at bearing end.	9-13A	
	B. Repair of other areas.	9-13B	
7.	Swivel Ring Maintenance:	9-14	9-1
	A. Removal of trough.	9-14A	
	B. Removal of swivel ring.	9-14B	
	C. Installation of swivel ring.	9-14C	
	D. Installation of trough.	9-14D	
	E. Operational check.	9-14E	
8.	Miniskirt Assembly Maintenance:	9-15	9-1
	A. Removal.	9-15A	
	B. Installation.	9-15B	
9.	Chute Maintenance:	9-16	9-1
	Repair.		
10.	Trough Guard Maintenance:	9-17	9-1
	A. Removal.	9-17A	
	B. Installation.	9-17B	

MIXER-AUGER SYSTEM.

9-8. WEAR BLADES REPLACEMENT.

THIS TASK COVERS: (APPROXIMATE TIME REQUIRED FOLLOWS TASK DESCRIPTION.)

a. Removal.	(5) (Each)
b. Installation.	(10) (Each)
	15 Minutes Total (Each).

INITIAL SETUP

APPLICABLE CONFIGURATIONS

M919.

TEST EQUIPMENT

None.

SPECIAL TOOLS

None.

MATERIALS/PARTS (P/N)

Wear Blades Kit, NS3427001 (50663).

EQUIPMENT CONDITION PARAGRAPH	CONDITION DESCRIPTION
TM 5-3895-372-10.	Mixer Trough Lowered. Trough Guards Open.

PERSONNEL REQUIRED

One (MOS-62B20).

REFERENCES (TM)

TM 5-3895-372-10.
TM 5-3895-372-20P.
TM 9-2320-273-10.

TROUBLESHOOTING REFERENCES

Table 9-1.

SPECIAL ENVIRONMENTAL CONDITIONS

Vehicle Parked on Level Ground.

GENERAL SAFETY INSTRUCTIONS

Engine Off.
Transmission in Neutral.
Parking Brake Set.
Safety Glasses Should be Worn When Working Around Cement.
Wet Cement and Concrete Can Cause Burns.

MIXER-AUGER SYSTEM.

9-8. WEAR BLADES REPLACEMENT (Continued).

LOCATION/ITEM	ACTION	REMARKS

A. REMOVAL.

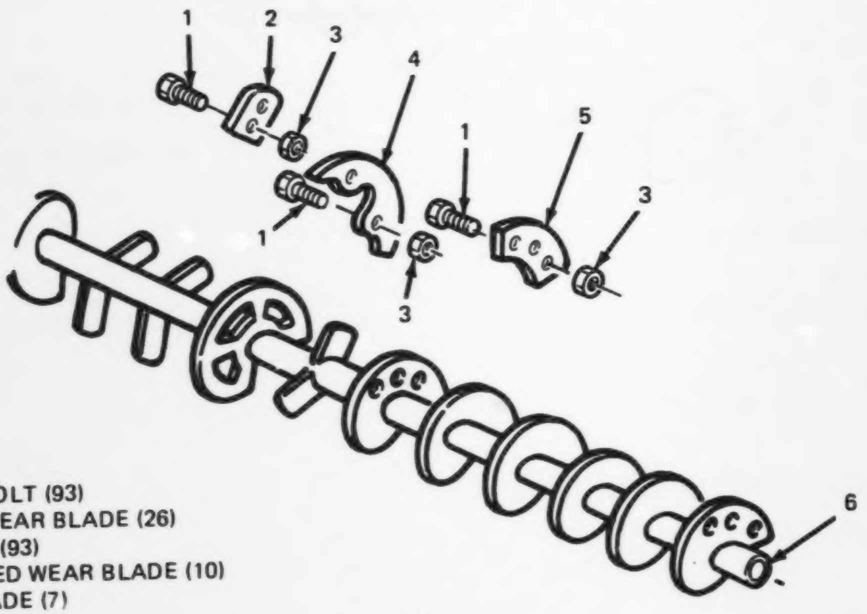
CAUTION

Do not damage rubber trough bottom when removing nuts.

NOTE

This procedure covers removal and replacement of one of each of the three different blade configurations. Follow the same procedure for any quantity to be replaced. The legend contains the total quantities per auger assembly. For replacement of all wear blades, use kit NS 3427001 (50663).

LOCATION/ITEM	ACTION	REMARKS
1. Two socket bolts (1) and locknuts (3).	Unscrew and remove paddle wear blade (2).	It may be necessary to chisel off.
2. Two socket bolts (1) and locknuts (3).	Unscrew and remove segmented wear blade (4).	It may be necessary to chisel off.
3. Three socket bolts (1) and locknuts (3).	Unscrew and remove wear blade (5).	It may be necessary to chisel off.



LEGEND:

1. SOCKET BOLT (93)
2. PADDLE WEAR BLADE (26)
3. LOCKNUT (93)
4. SEGMENTED WEAR BLADE (10)
5. WEAR BLADE (7)
6. AUGER

TA 076360

MIXER-AUGER SYSTEM.

9-8. WEAR BLADES REPLACEMENT (Continued).

LOCATION/ITEM	ACTION	REMARKS

B. INSTALLATION.

CAUTION

Wear blades are made of hardened steel and may break if bent during tightening. Use washers if there is a large gap between auger and blade.

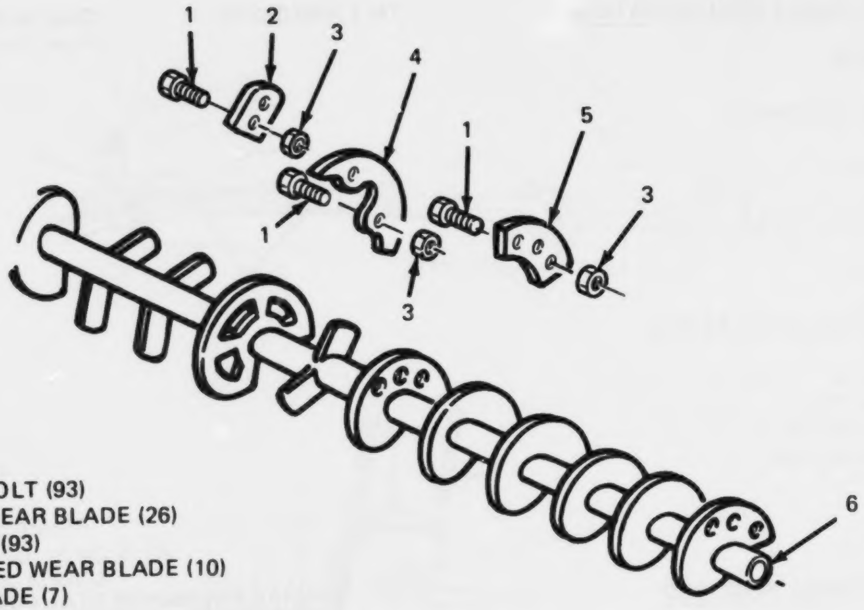
NOTE

After installation is completed, adjust blades (refer to TM 5-3895-372-10).

LOCATION/ITEM	ACTION	REMARKS
4. Wear blade (5).	a. Aline with mounting holes in auger (6). b. Install with three socket bolts (1) and locknuts (3).	
5. Segmented wear blade (4).	a. Aline with mounting holes in auger (6). b. Install with two socket bolts (1) and locknuts (3).	
6. Paddle wear blade (2).	a. Aline with mounting holes in auger (6). b. Install with two socket bolts (1) and locknuts (3).	

9-8. WEAR BLADES REPLACEMENT (Continued).

LOCATION/ITEM	ACTION	REMARKS



LEGEND:

1. SOCKET BOLT (93)
2. PADDLE WEAR BLADE (26)
3. LOCKNUT (93)
4. SEGMENTED WEAR BLADE (10)
5. WEAR BLADE (7)
6. AUGER

TA 076361

MIXER-AUGER SYSTEM.

9-9. MIXING AUGER ASSEMBLY MAINTENANCE.

THIS TASK COVERS: (APPROXIMATE TIME REQUIRED FOLLOWS TASK DESCRIPTION.)

a. Removal.	(20).
b. Installation.	(20)
c. Operational Check.	(5)
	45 Minutes Total.

INITIAL SETUP

APPLICABLE CONFIGURATIONS

M919.

TEST EQUIPMENT

None.

SPECIAL TOOLS

None.

MATERIALS/PARTS (P/N)

Plug, 2
Drain Pan.
Marking Pen.
Masking Tape.

PERSONNEL REQUIRED

One (MOS-62B20).

REFERENCES (TM)

LO 5-3895-372-12.
TM 5-3895-372-10.
TM 5-3895-372-20P.
TM 9-2320-273-10.

TROUBLESHOOTING REFERENCES

Table 9-1.

EQUIPMENT CONDITION PARAGRAPH	CONDITION DESCRIPTION
TM 5-3895-372-10.	Clean Up Water Hose Removed From Trough.

SPECIAL ENVIRONMENTAL CONDITIONS

Vehicle Parked on Level Ground.

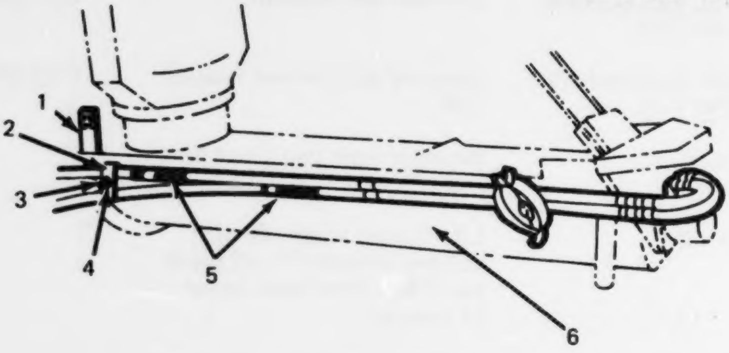
GENERAL SAFETY INSTRUCTIONS

Engine Off.
Transmission in Neutral.
Parking Brake Set.
Wet Cement and Concrete Can Cause Burns.

MIXER-AUGER SYSTEM.

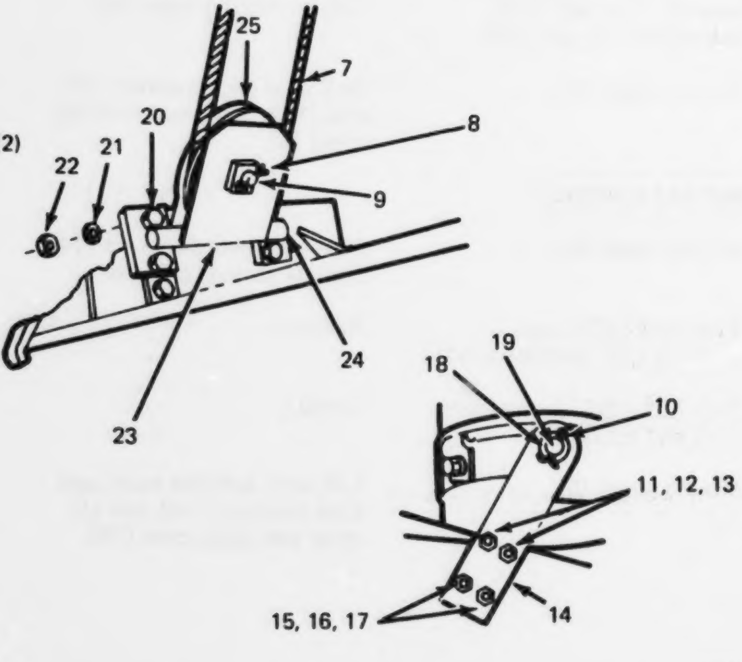
9-9. MIXING AUGER ASSEMBLY MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS
A. REMOVAL.		
1. Mixing auger (6).	Lower to horizontal position and support with suitable hoist.	
2. Nut (3) and lockwasher (4).	Unscrew and remove clamp (2).	
3. Two hydraulic hoses (5).	Disconnect and plug.	Drain oil from hoses into a pan. Tag for correct location at installation.



LEGEND:

1. BRACKET
2. CLAMP
3. NUT
4. LOCKWASHER
5. HYDRAULIC HOSE (2)
6. MIXING AUGER
7. CABLE
8. COTTER PIN
9. PIN
10. COTTER PIN (2)
11. BOLT (2)
12. NUT (2)
13. LOCKWASHER (2)
14. BRACKET (2)
15. BOLT (2)
16. NUT (2)
17. LOCKWASHER (2)
18. WASHER (2)
19. PIVOT PIN (2)
20. BOLT (4)
21. WASHER (4)
22. NUT (4)
23. PULLEY HOUSING
24. PULLEY BRACKET
25. PULLEY



TA 076362

9-9. MIXING AUGER ASSEMBLY MAINTENANCE (Continued).

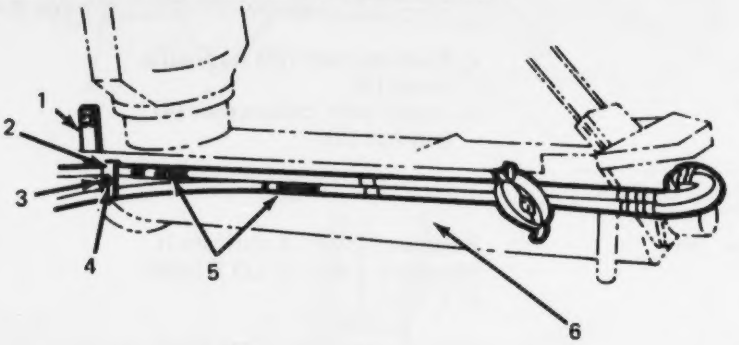
LOCATION/ITEM	ACTION	REMARKS
A. REMOVAL (Continued).		
4. Cotter pin (8) and pin (9).	a. Remove. b. Lift out pulley (25) and cable (7).	Take tension off cable (7) and secure to ladder.
5. Four bolts (20), washers (21), and nuts (22).	a. Unscrew and remove pulley bracket (24). b. Remove pulley housing (23) from pulley bracket (24).	
6. Two nuts (12), lockwashers (13), and bolts (11).	Unscrew and remove.	On right hand side.
7. Two nuts (16), lockwashers (17), and bolts (15).	Unscrew and remove bracket (14).	On right hand side.
8. Two cotter pins (10) and washers (18).	Remove from two pivot pins (19).	
9. Mixing auger (6).	Lift mixing auger (6) with welded bracket (1) off pivot pin (19). Once clear, lower to ground.	
10. Nuts (12), and (16), lockwashers (13) and (17), and bolts (11) and (15).	Reinstall and tighten bracket (14) to mixing auger (6).	
11. Mixing auger (6).	Roll over and brackets (14) and (1) will support mixing auger (6).	
B. INSTALLATION.		
12. Mixing auger (6).	Roll over with brackets (14) and (1) facing upwards.	
13. Two nuts (12), lockwashers (13) and bolts (11).	Remove.	
14. Two nuts (16), lockwashers (17) and bolts (15).	Loosen.	
15. Mixing auger (6).	Lift with suitable hoist and slide brackets (14) and (1) onto two pivot pins (19).	

MIXER-AUGER SYSTEM.

9-9. MIXING AUGER ASSEMBLY MAINTENANCE (Continued).

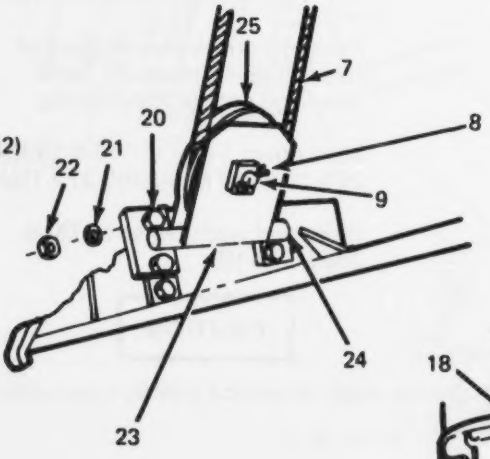
B. INSTALLATION (Continued).

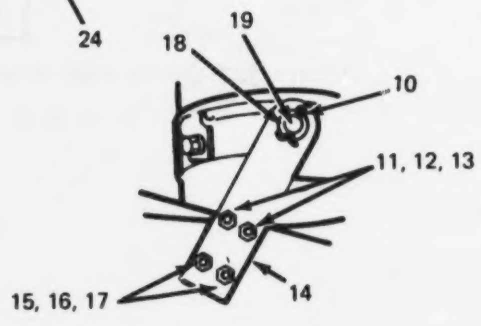
LOCATION/ITEM	ACTION	REMARKS
16. Two washers (18) and cotter pins (10).	Install in two pivot pins (19).	
17. Two nuts (12), nuts (16), lockwashers (13) and (17), and bolts (11) and (15).	Install and tighten.	
18. Pulley housing (23) and pulley bracket (24).	Install with four bolts (20), washers (21), and nuts (22).	



LEGEND:

1. BRACKET
2. CLAMP
3. NUT
4. LOCKWASHER
5. HYDRAULIC HOSE (2)
6. MIXING AUGER
7. CABLE
8. COTTER PIN
9. PIN
10. COTTER PIN (2)
11. BOLT (2)
12. NUT (2)
13. LOCKWASHER (2)
14. BRACKET (2)
15. BOLT (2)
16. NUT (2)
17. LOCKWASHER (2)
18. WASHER (2)
19. PIVOT PIN (2)
20. BOLT (4)
21. WASHER (4)
22. NUT (4)
23. PULLEY HOUSING
24. PULLEY BRACKET
25. PULLEY





TA 076363

MIXER-AUGER SYSTEM.

9-9. MIXING AUGER ASSEMBLY MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS
B. INSTALLATION (Continued).		
19. Cable (7) and pulley (25).	a. Install cable (7) around pulley (25). b. Install pulley (25) into pulley housing (23) with pin (9) and cotter pin (8). c. Raise until there is tension on cable and remove hoist.	
20. Two hydraulic hoses (5).	Remove plugs and install.	Be sure to connect hoses as you marked at removal.
21. Clamp (2).	a. Position over two hydraulic hoses (5). b. Install with lockwasher (4) and nut (3).	
C. OPERATIONAL CHECK.		
22. Mixing auger (6).	Raise and lower. Lubricate if necessary (refer to LO 5-3895-372-12).	
23. Mixer body.	Start up (refer to TM 9-2320-273-10 and TM 5-3895-372-10).	
24. Hydraulic motor.	Activate; check connections of two hydraulic hoses (5) for leaks and proper functioning.	Retighten connections as necessary.
25. Mixer body.	Shut down (refer to TM 9-2320-273-10 and TM 5-3895-372-10).	
26. Mixing auger (6).	Raise and latch (refer to TM 5-3895-372-10).	

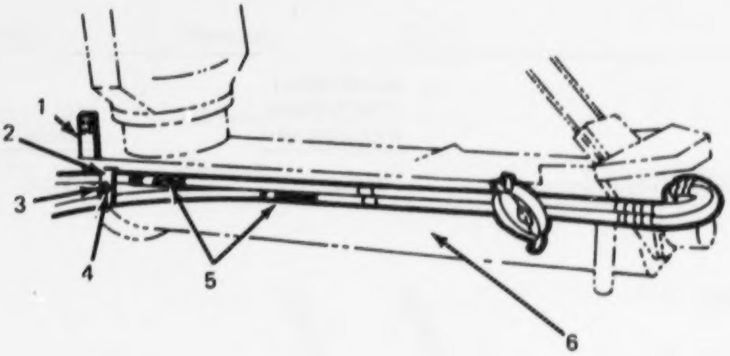
CAUTION

Always latch mixing auger in vertical position and utilize safety chain.

MIXER-AUGER SYSTEM.

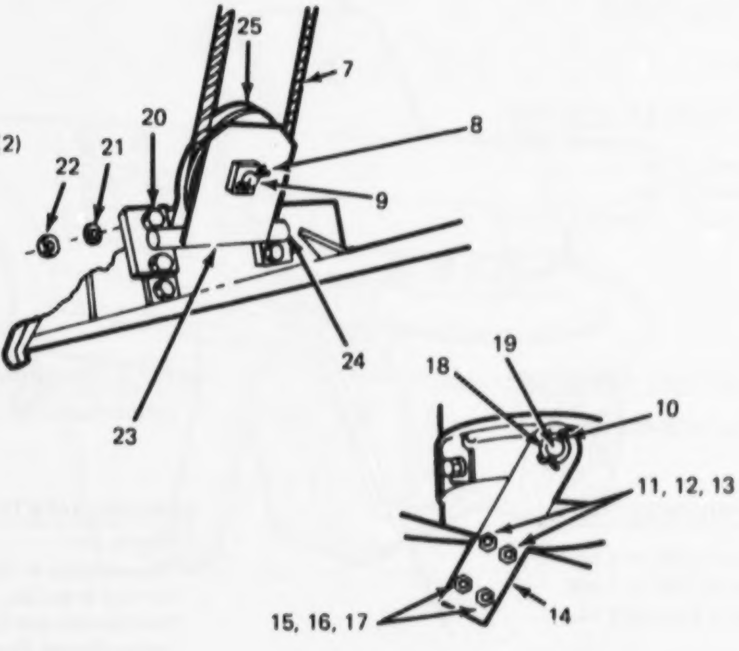
9-9. MIXING AUGER ASSEMBLY MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS



LEGEND:

1. BRACKET
2. CLAMP
3. NUT
4. LOCKWASHER
5. HYDRAULIC HOSE (2)
6. MIXING AUGER
7. CABLE
8. COTTER PIN
9. PIN
10. COTTER PIN (2)
11. BOLT (2)
12. NUT (2)
13. LOCKWASHER (2)
14. BRACKET (2)
15. BOLT (2)
16. NUT (2)
17. LOCKWASHER (2)
18. WASHER (2)
19. PIVOT PIN (2)
20. BOLT (4)
21. WASHER (4)
22. NUT (4)
23. PULLEY HOUSING
24. PULLEY BRACKET
25. PULLEY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TA 076364

MIXER-AUGER SYSTEM.

9-10. MIXER-AUGER MAINTENANCE.

THIS TASK COVERS: (APPROXIMATE TIME REQUIRED FOLLOWS TASK DESCRIPTION.)

a. Removal.	(20)
b. Installation.	(20)
c. Operational Check.	(10)
	50 Minutes Total.

INITIAL SETUP

APPLICABLE CONFIGURATIONS

M919.

TEST EQUIPMENT

None.

SPECIAL TOOLS

None.

MATERIALS/PARTS (P/N)

Marking Pen.
Masking Tape.
Plug (2).

PERSONNEL REQUIRED

One (MOS-62B20).

REFERENCES (TM)

TM 5-3895-372-10.
TM 5-3895-372-20P.
TM 9-2320-273-10.

TROUBLESHOOTING REFERENCES

Table 9-1.

EQUIPMENT CONDITION PARAGRAPH	CONDITION DESCRIPTION
None.	None.

SPECIAL ENVIRONMENTAL CONDITIONS

Vehicle Parked on Level Ground.

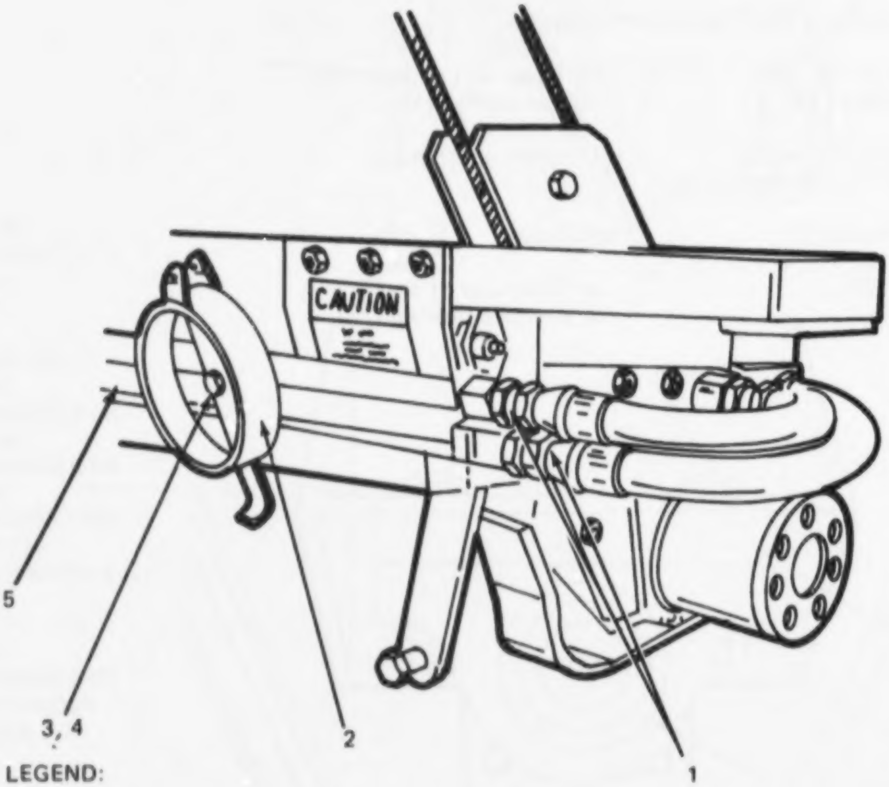
GENERAL SAFETY INSTRUCTIONS

Engine Off.
Transmission in Neutral.
Parking Brake Set.
Wet Cement and Concrete Can Cause Burns.
Safety Glasses Should be Worn When Working Around Cement.

MIXER-AUGER SYSTEM.

9-10. MIXER-AUGER MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS
A. REMOVAL.		
1. Auger assembly (5).	Lower to horizontal position and support under frame.	
2. One nut (4) and lockwasher (3).	Remove.	
3. Hose support bracket (2).	Remove.	
4. Two swivel nuts (1).	Remove.	Plug pipe ends and mark locations for reassembly.



LEGEND:

1. SWIVEL NUT (2)
2. HOSE SUPPORT BRACKET
3. LOCKWASHER
4. NUT
5. AUGER ASSEMBLY

TA 076365

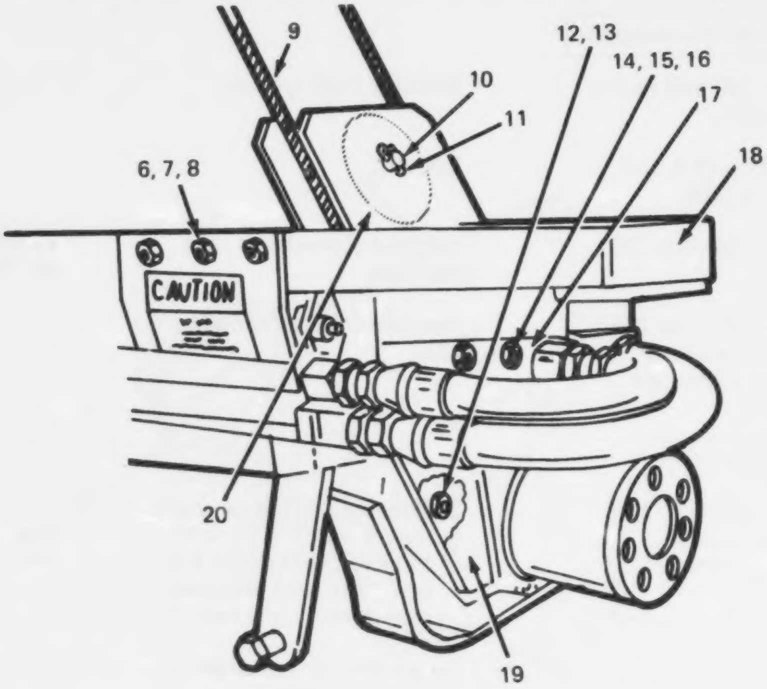
9-10. MIXER-AUGER MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS
A. REMOVAL (Continued).		
5. Six bolts (6), lockwashers (7) and nuts (8).	Remove.	
6. Bracket (18).	Remove.	
7. Four bolts (14), lockwashers (15), and nuts (16).	Remove.	
8. Two retainer strips (17).	Remove.	
9. Cotter pin (11) and pin (10).	Remove.	
10. Pulley (20) and cable (9).	Remove.	
11. Four nuts (12) and lockwashers (13).	Unscrew and remove two rubber baffles (19).	
12. Two bolts (21), nuts (22), and lockwashers (23).	Unscrew and remove.	
13. Spacer block (24).	Remove.	
14. Bearing (25).	a. Clean end of shaft. b. Remove bearing (25).	

MIXER-AUGER SYSTEM.

9-10. MIXER-AUGER MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS


9
12, 13
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6, 7, 8
CAUTION
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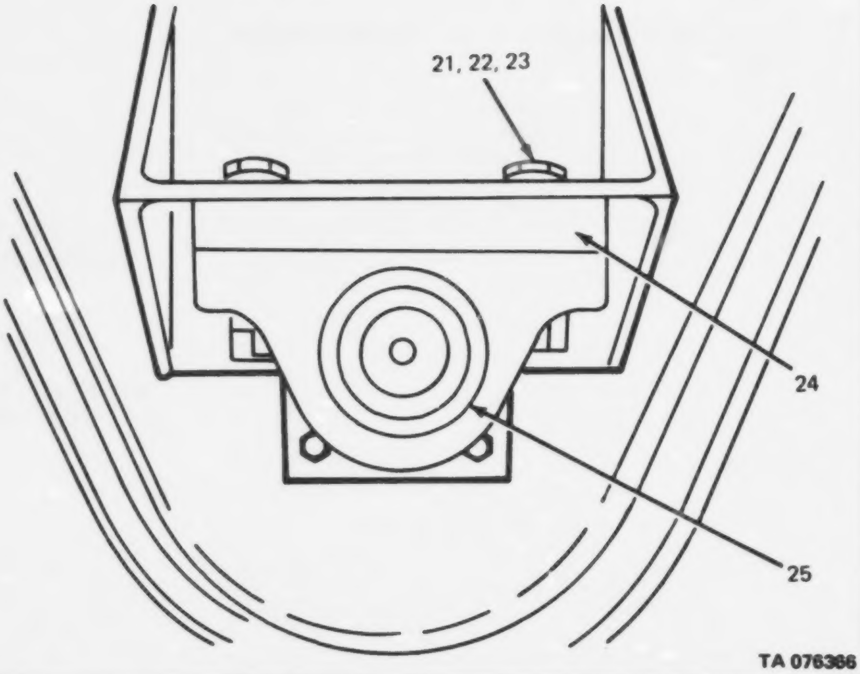
19

LEGEND:

6. BOLT (6)
7. LOCKWASHER (6)
8. NUT (6)
9. CABLE
10. PIN
11. COTTER PIN
12. NUT (4)
13. LOCKWASHER (4)
14. BOLT (4)
15. LOCKWASHER (4)
16. NUT (4)
17. RETAINER STRIP (2)
18. BRACKET
19. RUBBER BAFFLE (2)
20. PULLEY
21. BOLT (2)
22. NUT (2)
23. LOCKWASHER (2)
24. SPACER BLOCK
25. BEARING


21, 22, 23
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25

TA 076366

MIXER-AUGER SYSTEM.

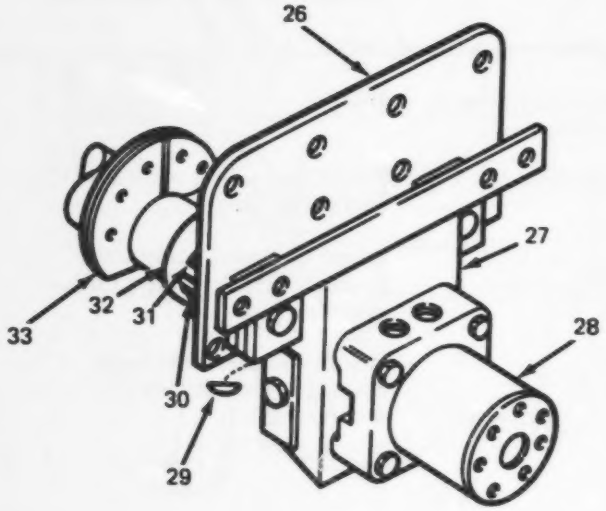
9-10. MIXER-AUGER MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS
A. REMOVAL (Continued).		
15. Motor (28) and mixer-auger (33).	Remove from trough.	
16. Two bolts (31) and locknuts (30).	Loosen.	
17. Mixer-auger hub (32).	Wedge a screwdriver into the slots.	Be careful not to split the hub, or "lock" tool into hub.
18. Motor (28), key (29), flexible mount (27), and end plate (26).	Remove from mixer-auger (33).	
B. INSTALLATION.		
19. Motor (28), key (29), flexible mount (27), and end plate (26).	a. Place key in motor shaft. b. Install motor (28) with flexible mount (27) and end plate (26) attached, into mixer-auger hub (32).	Remove screwdriver from slots of mixer-auger hub, if used.
20. Two bolts (31) and locknuts (30).	Install thru mixer-auger hub (32) and tighten.	
21. Motor (28) and mixer-auger (33).	Install in trough.	

MIXER-AUGER SYSTEM.

9-10. MIXER-AUGER MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS



LEGEND:

26. END PLATE
27. FLEXIBLE MOUNT
28. MOTOR
29. KEY
30. LOCKNUT (2)
31. BOLT (2)
.32. MIXER-AUGER HUB
33. MIXER-AUGER

TA 076367

MIXER-AUGER SYSTEM.

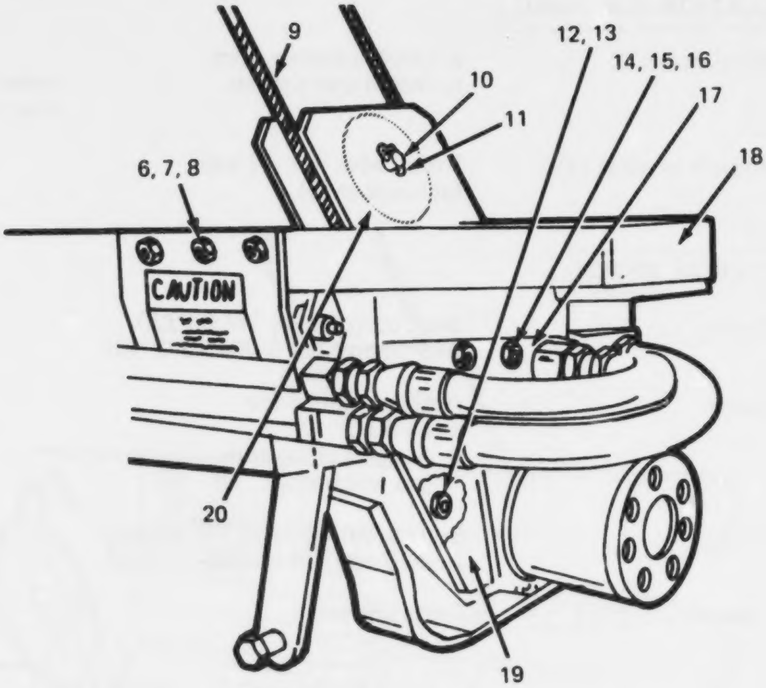
9-10. MIXER-AUGER MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS
B. INSTALLATION (Continued).		
22. Four nuts (12) and lockwashers (13).	Install.	
23. Bearing (25).	Install over rear of auger shaft.	
24. Spacer block (24).	Install.	
25. Two bolts (21), lockwashers (23), and nuts (22).	Install.	
26. Cable (9) and pulley (20).	Install and secure with pin (10) and cotter pin (11).	
27. Two retainer strips (17) and rubber baffles (19).	Install and secure with four bolts (14), lockwashers (15), and nuts (16).	
28. Bracket (18).	Install and secure with six bolts (6), lockwashers (7) and nuts (8).	

MIXER-AUGER SYSTEM.

9-10. MIXER-AUGER MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS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CAUTION
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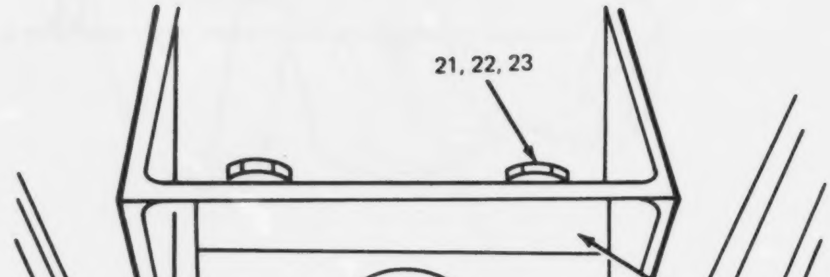
21, 22, 23
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25

LEGEND:

6. BOLT (6)
7. LOCKWASHER (6)
8. NUT (6)
9. CABLE
10. PIN
11. COTTER PIN
12. NUT (4)
13. LOCKWASHER (4)
14. BOLT (4)
15. LOCKWASHER (4)
16. NUT (4)
17. RETAINER STRIP (2)
18. BRACKET
19. RUBBER BAFFLE (2)
20. PULLEY
21. BOLT (2)
22. NUT (2)
23. LOCKWASHER (2)
24. SPACER BLOCK
25. BEARING

TA 076358

MIXER-AUGER SYSTEM.

9-10. MIXER-AUGER MAINTENANCE (Continued).

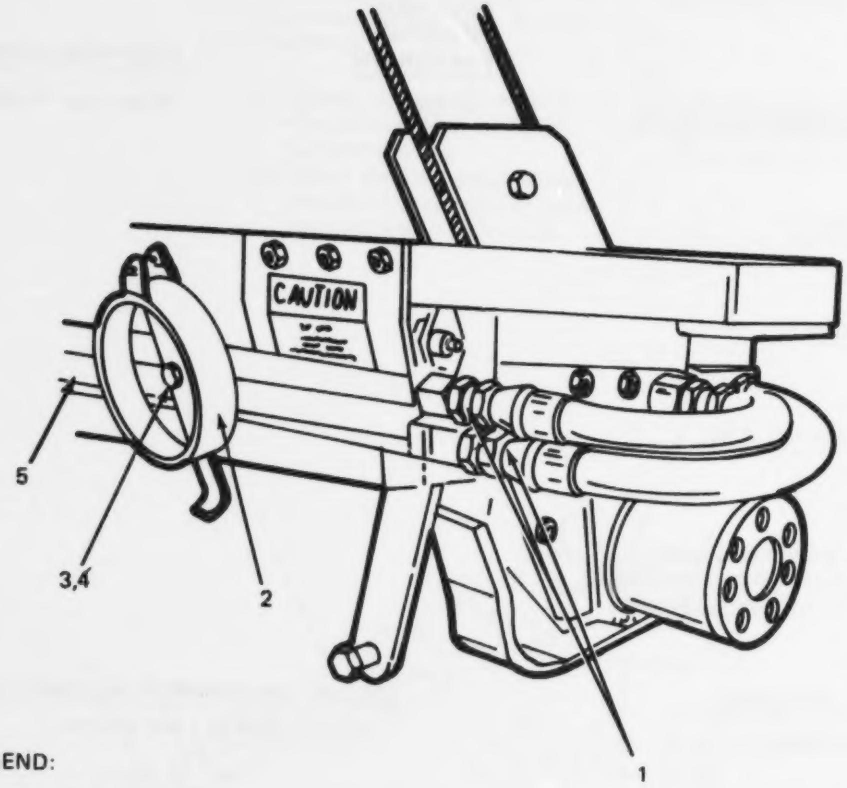
LOCATION/ITEM	ACTION	REMARKS
B. INSTALLATION (Continued).		
29. Two swivel nuts (1).	a. Unplug connections. b. Install and tighten.	Install in correct locations as you marked during removal.
30. Hose support bracket (2).	Install with nut (4) and lockwasher (3).	
C. OPERATIONAL CHECK.		
31. Mixer body.	Start up (refer to TM 9-2320-273-10 and TM 5-3895-372-10).	
32. Mixer-auger.	Activate; check for: a. Leaks. b. Auger turning true (no wobble).	
33. Mixer body.	Shut down (refer to TM 9-2320-273-10 and TM 5-3895-372-10).	
34. Auger assembly (5).	Raise and latch.	

WARNING

Always utilize safety chain when auger assembly is latched.

9-10. MIXER-AUGER MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS



LEGEND:

1. SWIVEL NUT (2)
2. HOSE SUPPORT BRACKET
3. LOCKWASHER
4. NUT
5. AUGER ASSEMBLY

TA 073369

MIXER-AUGER SYSTEM.

9-11. MIXER-AUGER REPAIR.

THIS TASK COVERS: (APPROXIMATE TIME REQUIRED FOLLOWS TASK DESCRIPTION.)

a. Straightening.	(60)
b. Replacement of Stub or Shouldered Shaft.	(60)
c. Replacement of Drive Bushing.	(30)
	150 Minutes Total.

INITIAL SETUP

EQUIPMENT CONDITION PARAGRAPH	CONDITION DESCRIPTION
9-10A.	Mixer-Auger Removed.

APPLICABLE CONFIGURATIONS

M919.

TEST EQUIPMENT

None.

SPECIAL TOOLS

None.

MATERIALS/PARTS (P/N)

Vee Block, 2.
Surface Plate.
Tri-Square.
Stub Shaft, NP3352002 (50663).
Shouldered Shaft, NP3352003 (50663).
Drive Bushing, NP5033056 (50663).
Hammer.
Chisel.

PERSONNEL REQUIRED

One (MOS-62B20).

REFERENCES (TM)

TM 5-3895-372-10.
TM 5-3895-372-20P.
TM 9-2320-273-10.

TROUBLESHOOTING REFERENCES

Table 9-1.

SPECIAL ENVIRONMENTAL CONDITIONS

Vehicle Parked on Level Ground.

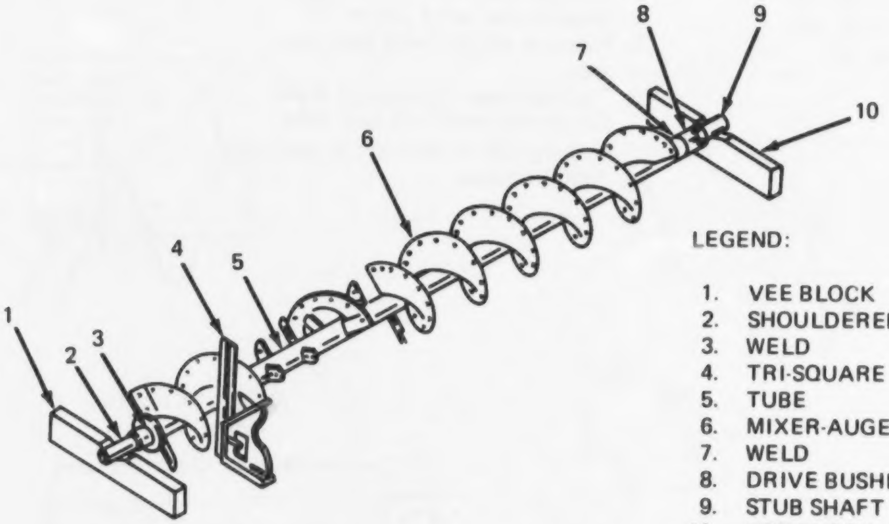
GENERAL SAFETY INSTRUCTIONS

Engine Off.
Transmission in Neutral.
Parking Brake Set.
Safety Glasses Should be Worn When Hitting Shaft with Hammer.

9-11. MIXER-AUGER REPAIR (Continued).

A. STRAIGHTENING.

LOCATION/ITEM	ACTION	REMARKS
1. Mixer-auger (6).	Place in position, as shown, with stub shaft (9) and shouldered shaft (2) resting on two vee blocks (1) and (10).	Vee blocks must be on a level surface; use a surface plate if available.
2. Tri-square (4).	Position on surface plate with arm close to tube (5), but not touching.	Start near either end.
3. Mixer-auger (6).	a. Slowly turn while watching the point where tri-square (4) was placed. b. Select another point about one-third towards the opposite end and check again.	If distance remains the same for 360° rotation, auger is OK at that point.



LEGEND:

1. VEE BLOCK
2. SHOULDERED SHAFT
3. WELD
4. TRI-SQUARE
5. TUBE
6. MIXER-AUGER
7. WELD
8. DRIVE BUSHING
9. STUB SHAFT
10. VEE BLOCK

TA 076370

MIXER-AUGER SYSTEM.

9-11. MIXER-AUGER REPAIR (Continued).

LOCATION/ITEM	ACTION	REMARKS
A. STRAIGHTENING (Continued).		
4. Mixer-auger (6).	a. If distance increases or decreases between tube (5) and tri-square (4), mark the spot where the distance is the least. b. Place the marked spot at top and hit with a heavy hammer; then recheck with tri-square until distance remains constant.	

NOTE

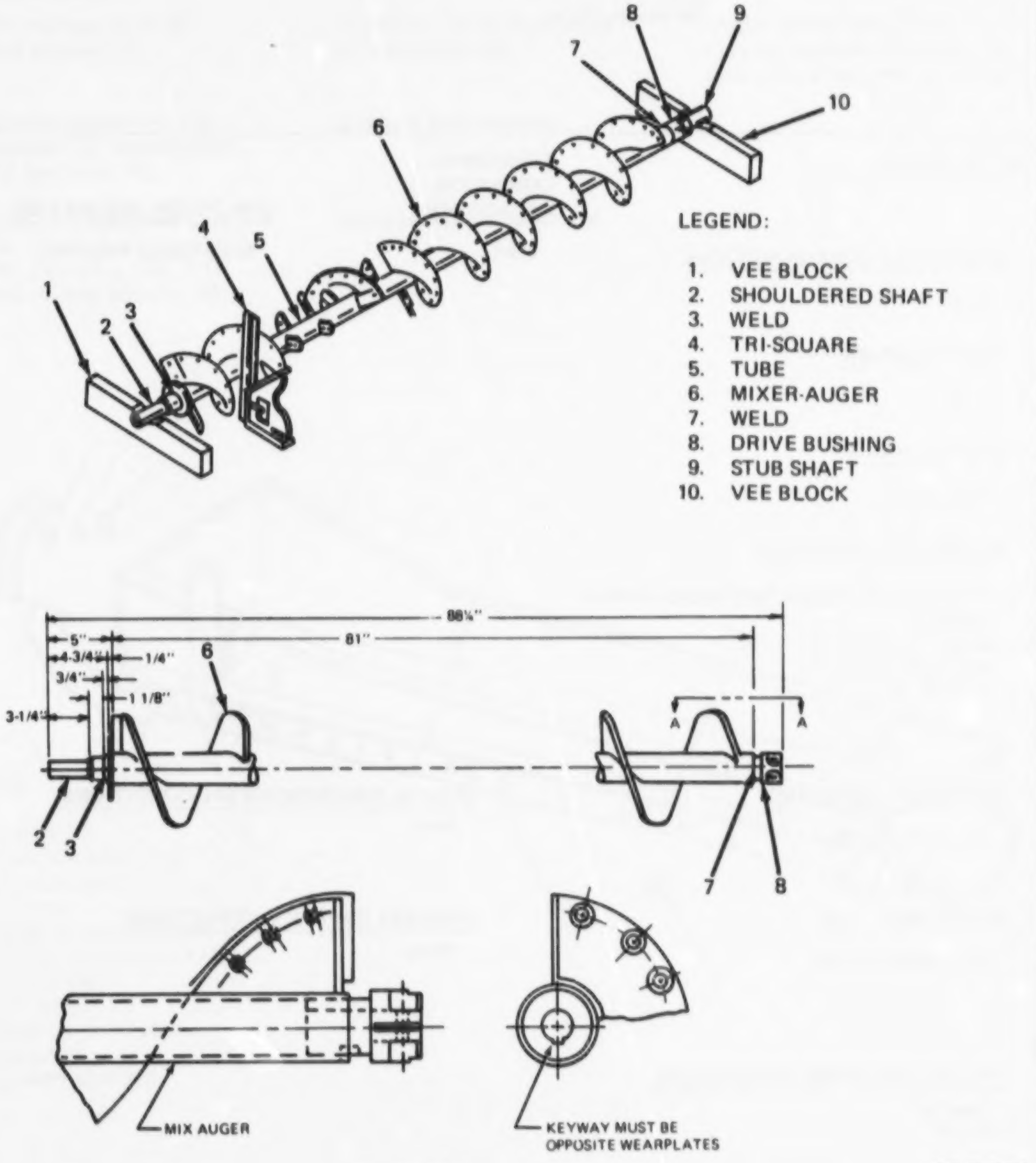
Perform the straightening procedure at three or four points along the length of the mixer-auger (6), until all high spots have been eliminated. If mixer-auger (6) cannot be straightened in this manner, replace it.

LOCATION/ITEM	ACTION	REMARKS
B. REPLACEMENT OF STUB OR SHOULDERED SHAFT.		
5. Shouldered shaft (2) or stub shaft (9) and drive bushing (8).	a. Using a suitable hammer and chisel break weld (3) or (7). b. Remove all old weld and clean area. c. Position new shouldered shaft (2) or stub shaft (9) and drive bushing (8) in position to tube (5). d. Weld in place.	

MIXER-AUGER SYSTEM.

9-11. MIXER-AUGER REPAIR (Continued).

LOCATION/ITEM	ACTION	REMARKS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5"
4-3/4"
1/4"
3/4"
1 1/8"
3-1/4"
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A
2
3
7
8
MIX AUGER
KEYWAY MUST BE OPPOSITE WEARPLATES
VIEW A-A

LEGEND:

1. VEE BLOCK
2. SHOULDERED SHAFT
3. WELD
4. TRI-SQUARE
5. TUBE
6. MIXER-AUGER
7. WELD
8. DRIVE BUSHING
9. STUB SHAFT
10. VEE BLOCK

TA 076371

MIXER-AUGER SYSTEM.

9-12. RUBBER TROUGH MAINTENANCE.

THIS TASK COVERS: (APPROXIMATE TIME REQUIRED FOLLOWS TASK DESCRIPTION.)

a. Removal.	(20)
b. Installation.	(30)
	50 Minutes Total.

INITIAL SETUP

EQUIPMENT CONDITION PARAGRAPH	CONDITION DESCRIPTION
9-9A.	Mixer Trough Removed.

APPLICABLE CONFIGURATIONS

M919.

TEST EQUIPMENT

None.

SPECIAL TOOLS

None.

MATERIALS/PARTS (P/N)

Rubber Trough Bottom, NP2186000 (50663).
Hammer.
Chisel.
Marking Pen.
C-Clamp, 4.

PERSONNEL REQUIRED

One (MOS-62B20).

SPECIAL ENVIRONMENTAL CONDITIONS

None.

REFERENCES (TM)

TM 5-3895-372-20P.

GENERAL SAFETY INSTRUCTIONS

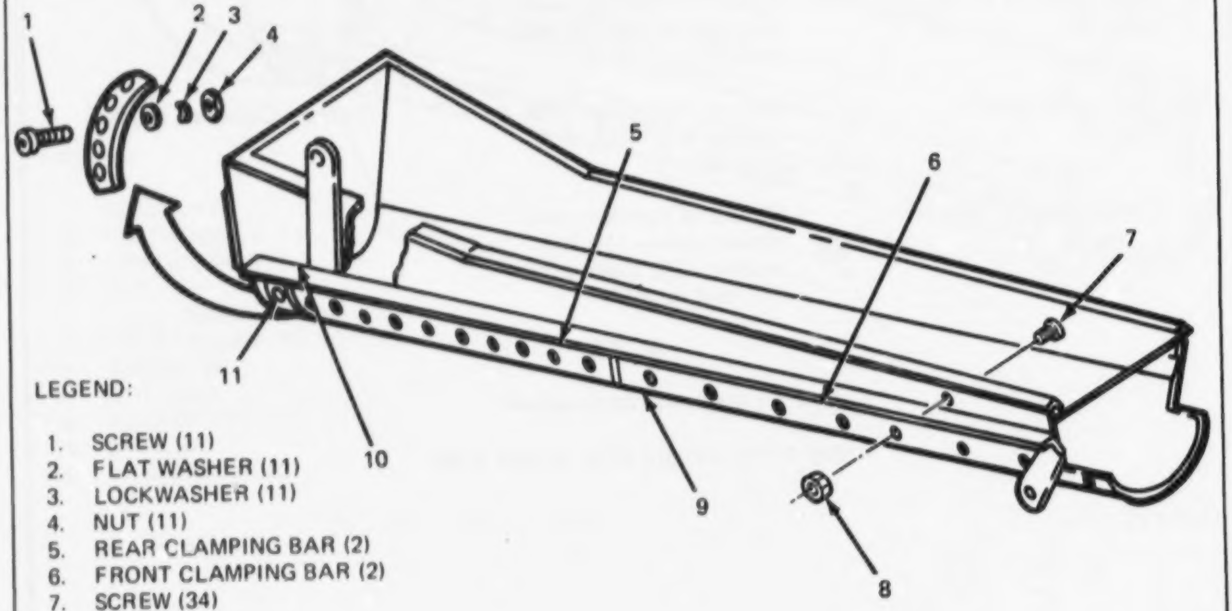
None.

TROUBLESHOOTING REFERENCES

Table 9-1.

9-12. RUBBER TROUGH MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS
A. REMOVAL.		
1. Thirty-four nuts (8) and screws (7).	Unscrew and remove; press to remove screws.	Under severe conditions, it may be necessary to shear off nuts with a hammer and chisel.
2. Eleven screws (1), flat washer (2), lockwashers (3) and nuts (4).	Unscrew and remove.	
3. Two rear clamping bars (5), front clamping bars (6), clamping ring (11), and rubber bottom (9).	Remove from trough (10).	



LEGEND:

1. SCREW (11)
2. FLAT WASHER (11)
3. LOCKWASHER (11)
4. NUT (11)
5. REAR CLAMPING BAR (2)
6. FRONT CLAMPING BAR (2)
7. SCREW (34)
8. NUT (34)
9. RUBBER BOTTOM
10. TROUGH
11. CLAMPING RING

TA 076372

9-12. RUBBER TROUGH MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS
B. INSTALLATION.		
4. Rubber bottom (9).	a. Lay new rubber down on wood backing. b. Place old rubber over new rubber and mark holes. c. Remove old rubber. d. Using a 5/16 inch punch, punch holes in new rubber.	

NOTE

When installing and tightening screws, start at the front of trough (10) and work towards the rear.

LOCATION/ITEM	ACTION	REMARKS
5. Rubber bottom (9) (new).	a. Place in trough (10). b. Aline holes with a punch.	Use C-clamps to hold in position.
6. Two front clamping bars (6).	Secure in position with fourteen screws (7) and nuts (8).	
7. Two rear clamping bars (5).	Secure in position with twenty screws (7) and nuts (8).	Remove C-clamps if used.
8. Clamping ring (11).	Secure in position with eleven screws (1), flat washers (2), lockwashers (3), and nuts (4).	

NOTE

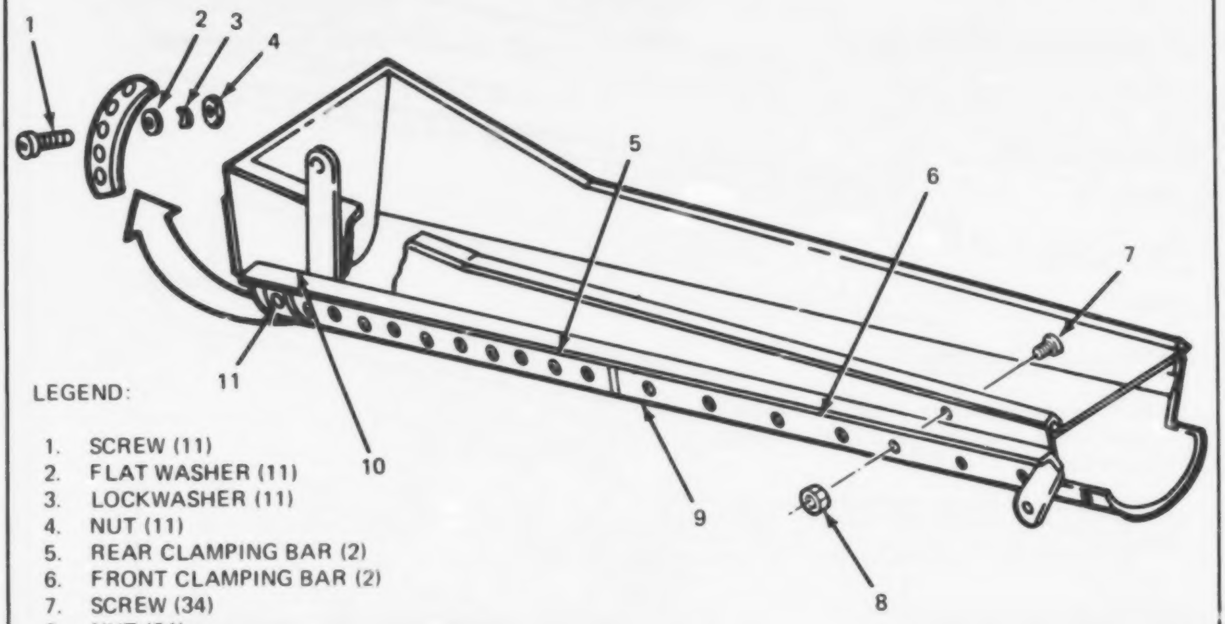
Follow-on maintenance required;

Install mixer trough; refer to para 9-9B.

MIXER-AUGER SYSTEM.

9-12. RUBBER TROUGH MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS



LEGEND:

1. SCREW (11)
2. FLAT WASHER (11)
3. LOCKWASHER (11)
4. NUT (11)
5. REAR CLAMPING BAR (2)
6. FRONT CLAMPING BAR (2)
7. SCREW (34)
8. NUT (34)
9. RUBBER BOTTOM
10. TROUGH
11. CLAMPING RING

TA 076373

MIXER-AUGER SYSTEM.

9-13. RUBBER TROUGH REPAIR.

THIS TASK COVERS: (APPROXIMATE TIME REQUIRED FOLLOWS TASK DESCRIPTION.)

a. Repair at Bearing End.	(120)
b. Repair of Other Areas.	(60)
	180 Minutes Total.

INITIAL SETUP

APPLICABLE CONFIGURATIONS

M919.

TEST EQUIPMENT

None.

SPECIAL TOOLS

None.

MATERIALS/PARTS (P/N)

Rubber Trough Repair Kit, NP2923000 (50663).
Rubber Trough Patch Kit, NP3013000 (50663).
Marking Pen.

EQUIPMENT CONDITION PARAGRAPH	CONDITION DESCRIPTION
9-9A.	Mixer Trough Removed.

PERSONNEL REQUIRED

One (MOS-62B20).

REFERENCES (TM)

TM 5-3895-372-10.
TM 5-3895-372-20P.
TM 9-2320-273-10.

TROUBLESHOOTING REFERENCES

Table 9-1.

SPECIAL ENVIRONMENTAL CONDITIONS

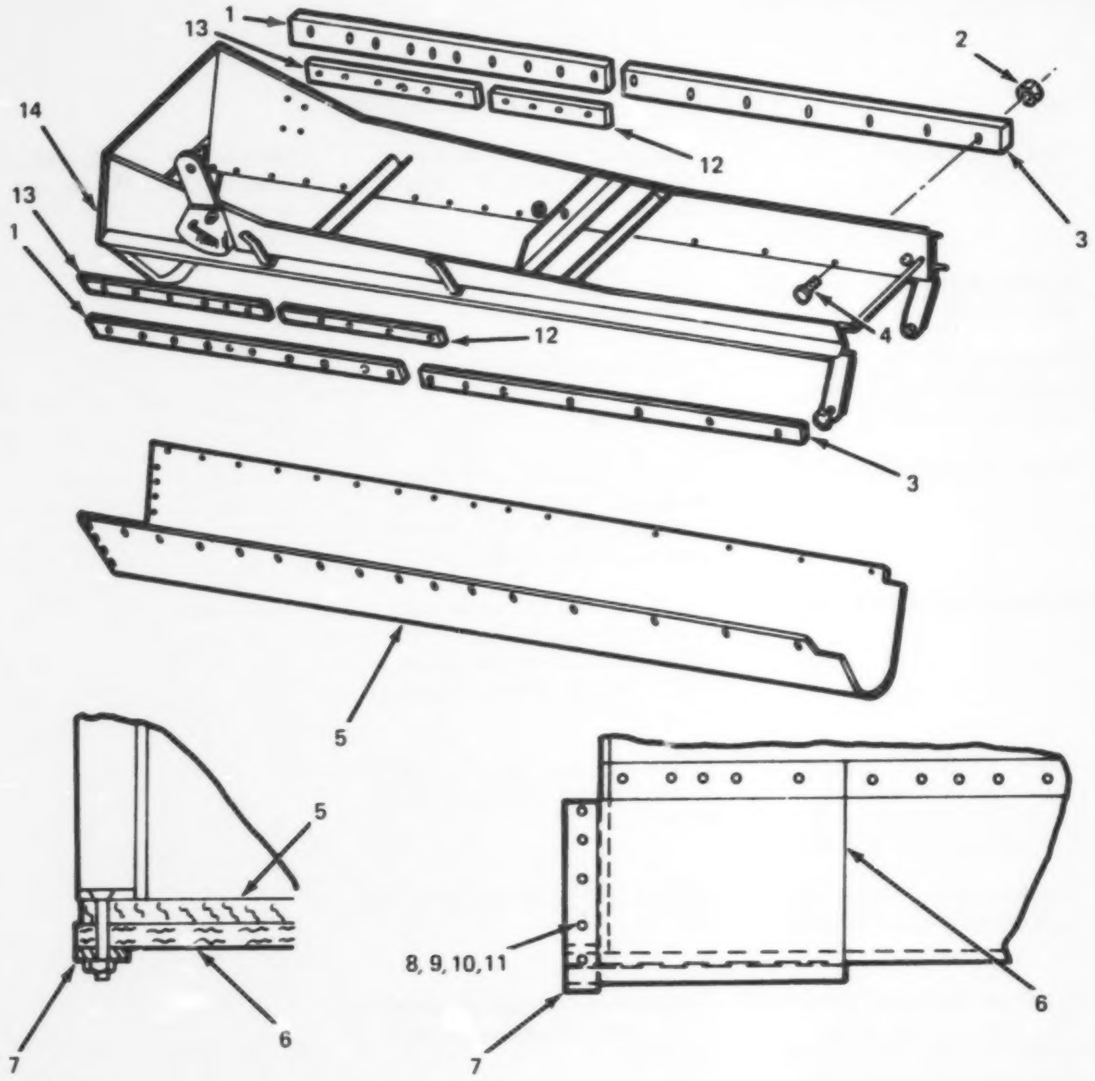
None.

GENERAL SAFETY INSTRUCTIONS

None.

9-13. RUBBER TROUGH REPAIR (Continued).

LOCATION/ITEM	ACTION	REMARKS



LEGEND:

1. REAR CLAMPING BAR (2)
2. NUT (34)
3. FRONT CLAMPING BAR (2)
4. SCREW (34)
5. RUBBER TROUGH BOTTOM
6. REINFORCEMENT RUBBER
7. CLAMPING RING
8. SCREW (11)
9. FLAT WASHER (11)
10. LOCKWASHER (11)
11. NUT (11)
12. FRONT CLAMPING BAND (2)
13. REAR CLAMPING BAND (2)
14. TROUGH

TA 076374

MIXER-AUGER SYSTEM.

9-13. RUBBER TROUGH REPAIR (Continued).

LOCATION/ITEM	ACTION	REMARKS

A. REPAIR AT BEARING END.

NOTE

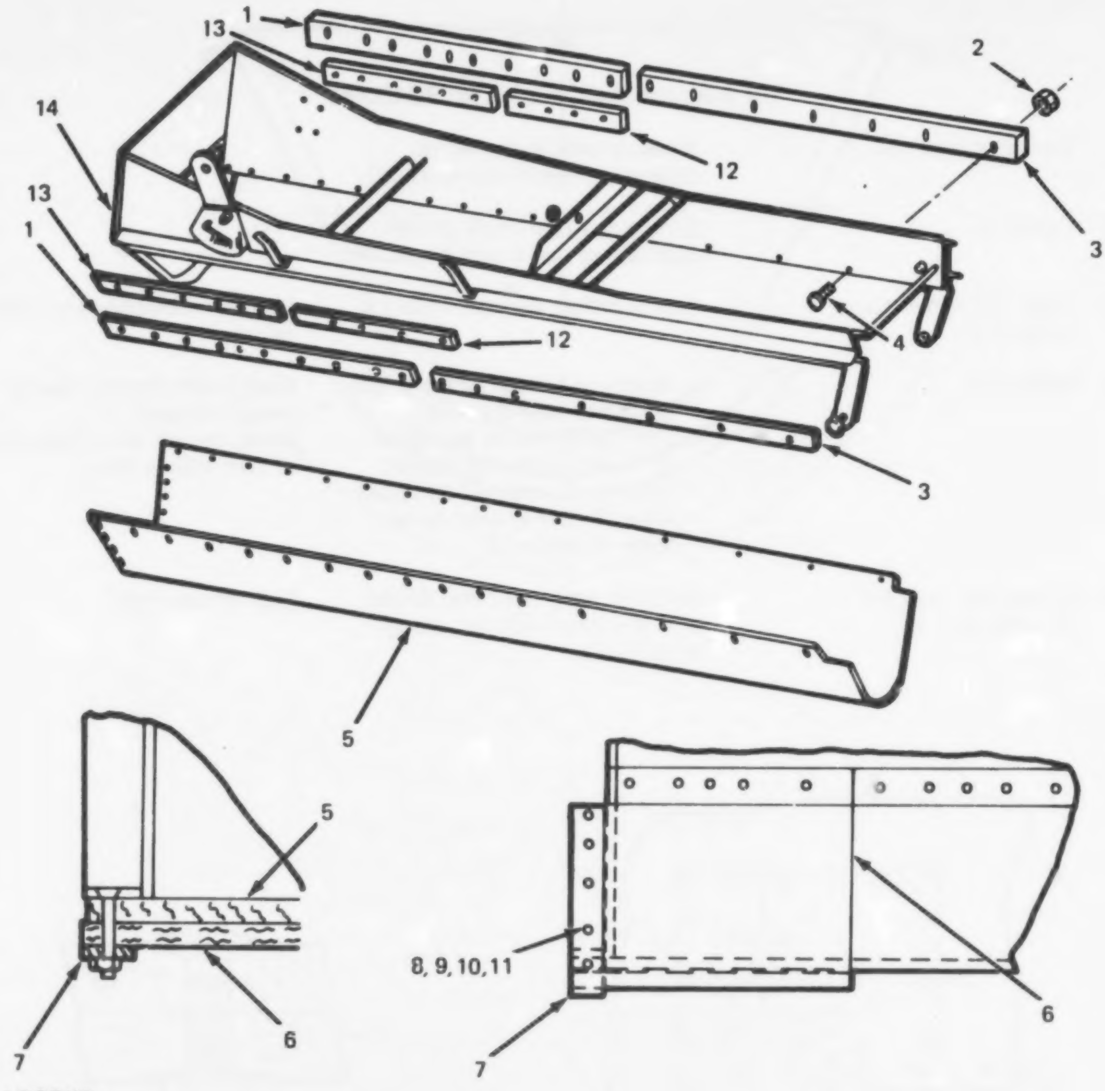
For this procedure, use kit NP 2923000.

	LOCATION/ITEM	ACTION	REMARKS
1.	Two rear clamping bars (1).	Mark dimension of repair area on the two rear clamping bars (1).	Mark repair area so that at least three screws (4) and and nuts (2) attach each rear clamping bar (1).
2.	Twenty screws (4) and nuts (2).	Unscrew and remove two rear clamping bars (1).	
3.	Eleven screws (8), flat washers (9), lockwashers (10), and nuts (11).	Unscrew and remove clamping ring (7).	
4.	Two rear clamping bars (1).	Cut at dimension you marked in step 1, to make two front clamping bands (12) and two rear clamping bands (13).	
5.	Reinforcement rubber (6).	Cut to fit the damaged area and drill holes to aline with those in front clamping bands (12) and rear clamping bands (13).	
6.	One front clamping band (12), one rear clamping band (13), and cut to fit reinforcement rubber (6).	Install on one side of trough (14) with ten screws (4) and nuts (2).	
7.	Reinforcement rubber (6) and rubber trough bottom (5).	Coat with rubber cement from kit.	
8.	One front clamping band (12), one rear clamping band (13), and free end of reinforcement rubber (6).	Install on other side of trough (14) with ten screws (4) and nuts (2).	
9.	Reinforcement rubber (6).	Drill to fit holes in clamping ring (7).	
10.	Clamping ring (7).	Install with eleven screws (8), flat washers (9), lockwashers (10), and nuts (11).	

MIXER-AUGER SYSTEM.

9-13. RUBBER TROUGH REPAIR (Continued).

LOCATION/ITEM	ACTION	REMARKS



LEGEND:

1. REAR CLAMPING BAR (2)
2. NUT (34)
3. FRONT CLAMPING BAR (2)
4. SCREW (34)
5. RUBBER TROUGH BOTTOM
6. REINFORCEMENT RUBBER
7. CLAMPING RING
8. SCREW (11)
9. FLAT WASHER (11)
10. LOCKWASHER (11)
11. NUT (11)
12. FRONT CLAMPING BAND (2)
13. REAR CLAMPING BAND (2)
14. TROUGH

TA 076375

MIXER-AUGER SYSTEM.

9-13. RUBBER TROUGH REPAIR (Continued).

B. REPAIR OF OTHER AREAS.

NOTE

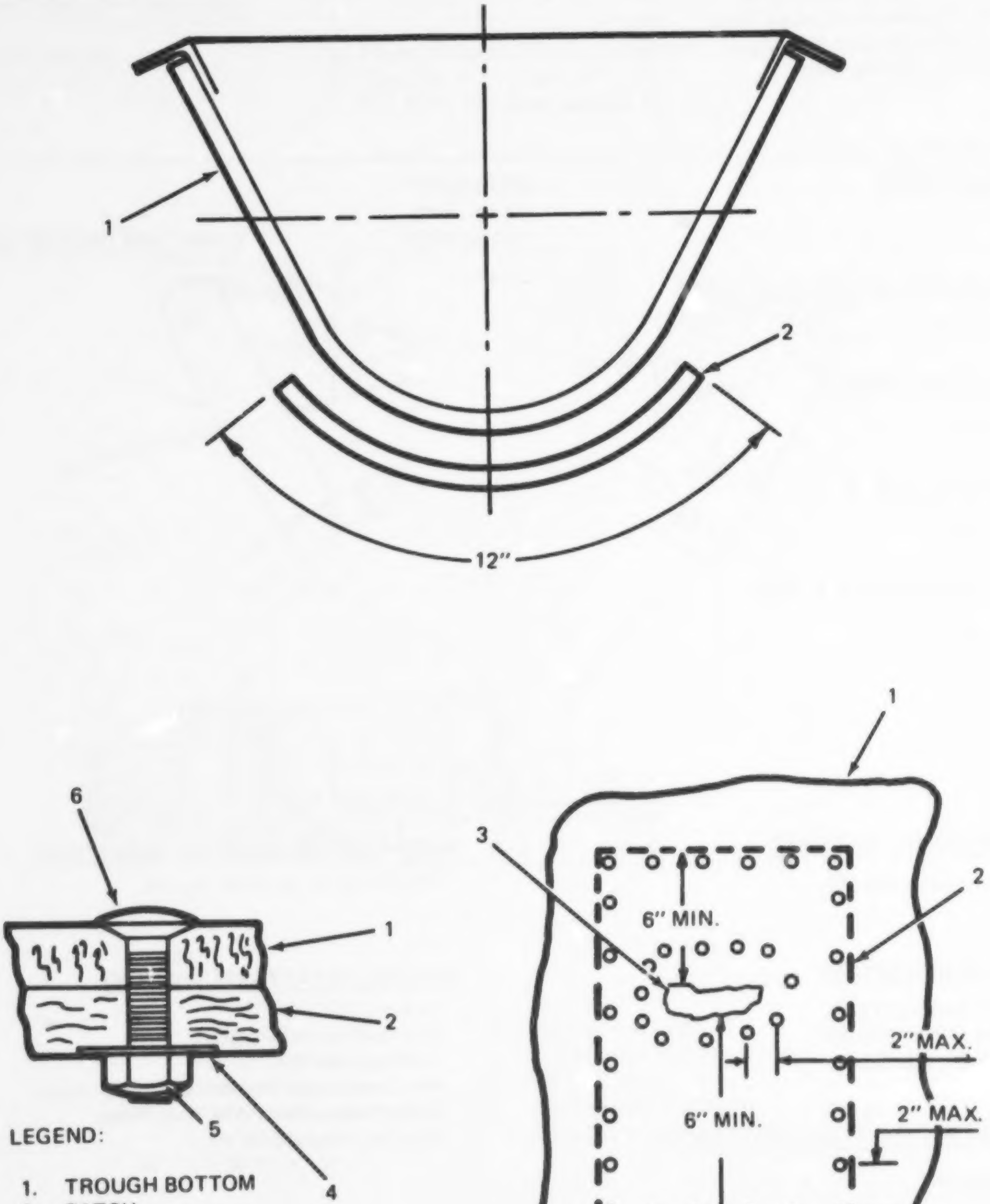
For this procedure, use kit NP 3D13000.

LOCATION/ITEM	ACTION	REMARKS
11. Damaged area (3).	Measure area as shown to determine patch size required.	
12. Patch (2).	Cut to size and mark trough area where patch will be applied.	
13. Patch (2) and trough bottom (1).	Apply rubber cement from kit.	Follow instructions on container.
14. Patch (2).	a. Apply to trough bottom (1) over damaged area (3).	Keep patch tightly against trough bottom.
	b. Drill 9/32" holes as shown thru patch (2) and trough bottom (1) around damaged area (3) and around outer edge of patch (2).	Holes should be a maximum of two inches apart.
15. Screws (6), washers (4), and nuts (5).	Install in each hole you drilled thru the patch (2) and trough bottom (1).	Tighten securely.

MIXER-AUGER SYSTEM.

9-13. RUBBER TROUGH REPAIR (Continued).

LOCATION/ITEM	ACTION	REMARKS


1
2
12"
6
1
2
5
4
3
1
2
6" MIN.
2" MAX.
6" MIN.
2" MAX.
12"

LEGEND:

1. TROUGH BOTTOM
2. PATCH
3. DAMAGED AREA
4. WASHER (V)
5. NUT (V)
6. SCREW (V)

TA 076376

MIXER-AUGER SYSTEM.

9-14. SWIVEL RING MAINTENANCE.

THIS TASK COVERS: (APPROXIMATE TIME REQUIRED FOLLOWS TASK DESCRIPTION.)

a. Removal of Trough.	(15)
b. Removal of Swivel Ring.	(10)
c. Installation of Swivel Ring.	(15)
d. Installation of Trough.	(20)
e. Operational Check.	(5)
	65 Minutes Total.

INITIAL SETUP

EQUIPMENT CONDITION PARAGRAPH	CONDITION DESCRIPTION
None.	None.

APPLICABLE CONFIGURATIONS

M919.

TEST EQUIPMENT

None.

SPECIAL TOOLS

None.

MATERIALS/PARTS (P/N)

None.

PERSONNEL REQUIRED

Two (MOS-62B20).

REFERENCES (TM)

TM 5-3895-372-10.
TM 5-3895-372-20P.
TM 9-2320-273-10.

TROUBLESHOOTING REFERENCES

Table 9-1.

SPECIAL ENVIRONMENTAL CONDITIONS

Vehicle Parked on Level Ground.

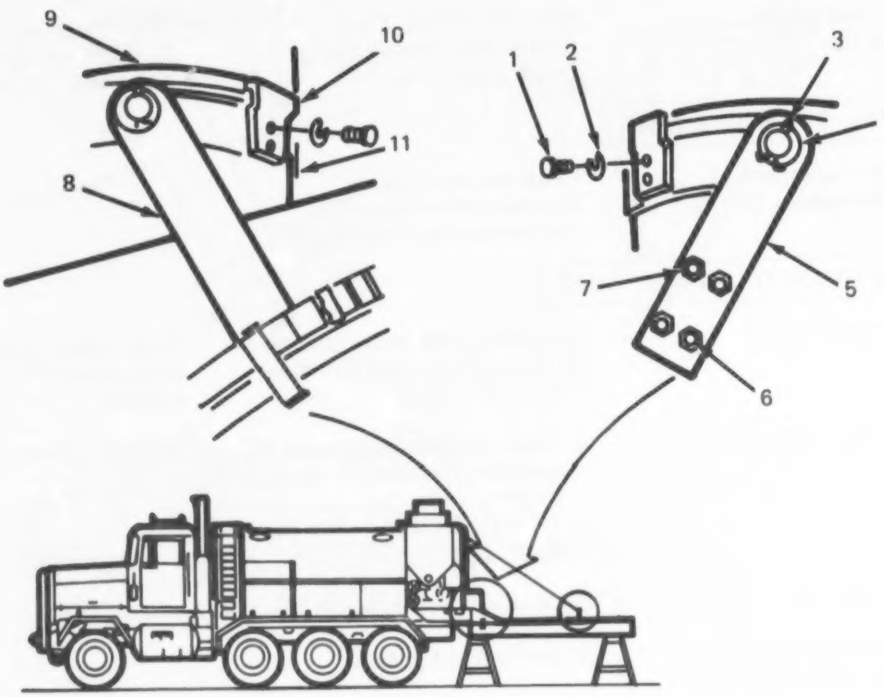
GENERAL SAFETY INSTRUCTIONS

Engine Off.
Transmission in Neutral.
Parking Brake Set.
Wet Cement and Concrete Can Cause Burns.
Safety Glasses Should be Worn When Working Around Cement.

MIXER-AUGER SYSTEM.

9-14. SWIVEL RING MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS
A. REMOVAL OF TROUGH.		
1. Mixer trough.	a. Lower to horizontal position. b. Support with suitable hoist. Put slack in winch cable.	Refer to TM 5-3895-372-10.



LEGEND:

1. CAPSCREW (18)
2. LOCKWASHER (18)
3. COTTER PIN (2)
4. WASHER (2)
5. RIGHT HAND HANGER BRACKET
6. CAPSCREW (4)
7. NUT (4)
8. SWIVEL FRAME
9. SWIVEL RING RETAINER
10. SWIVEL RING
11. LEFT HAND HANGER BRACKET

TA 076377

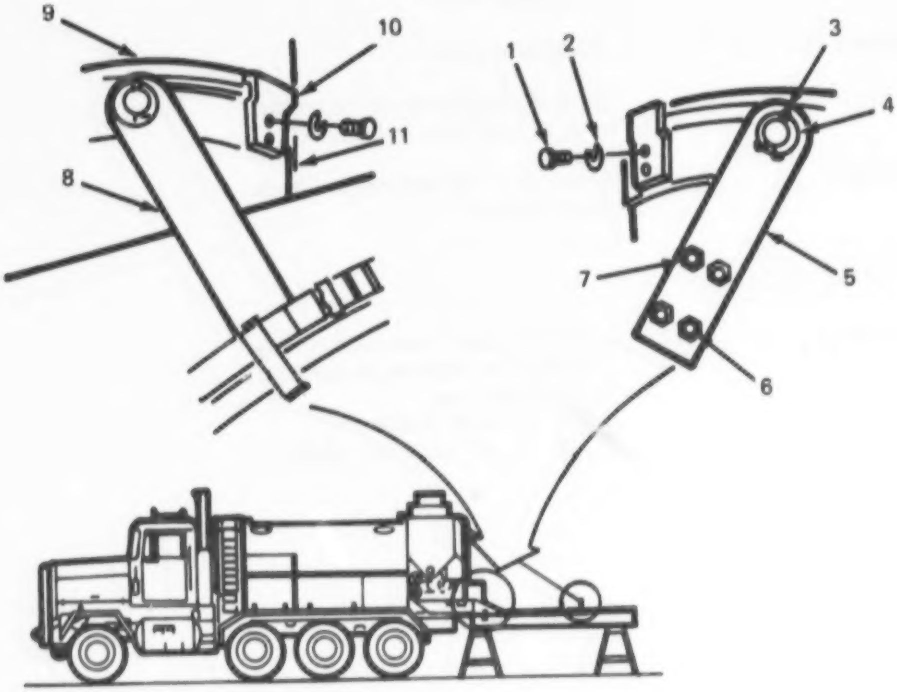
9-14. SWIVEL RING MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS
A. REMOVAL OF TROUGH (Continued).		
2. Two cotter pins (3) and washers (4).	Remove.	One cotter pin on each side of trough.
3. Four nuts (7) and capscrews (6).	Remove two on top and loosen two on bottom.	Right hand side.
4. Right hand hanger bracket (5).	Slide off of pin. Pivot trough and remove from chute pivot pins.	Lift trough and push to left. Support trough under frame not under rubber bottom.
B. REMOVAL OF SWIVEL RING.		
5. Eighteen capscrews (1) and lockwashers (2).	Unscrew and remove. Remove swivel ring (10) and swivel ring retainer (9).	
C. INSTALLATION OF SWIVEL RING.		
6. Swivel frame (8).	Lubricate with heavy machine oil and remove rust and scale with a wire brush.	Weld cracks using standard shop practices and techniques.
7. Swivel ring retainer (9).	a. Place eighteen capscrews (1) and lockwashers (2) through holes. b. Slide up around swivel frame (8).	Do not tighten yet.
8. Swivel ring (10).	Place under swivel frame (8).	
9. Eighteen capscrews (1). and lockwashers (2).	Screw in and tighten.	
10. Swivel ring (10).	Check for binding or sticking.	
D. INSTALLATION OF TROUGH.		
11. Trough.	a. Place in position. b. Lift front end and slide left hanger bracket (11) onto pin.	

MIXER-AUGER SYSTEM.

9-14. SWIVEL RING MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS



LEGEND:

1. CAPSCREW (18)
2. LOCKWASHER (18)
3. COTTER PIN (2)
4. WASHER (2)
5. RIGHT HAND HANGER BRACKET
6. CAPSCREW (4)
7. NUT (4)
8. SWIVEL FRAME
9. SWIVEL RING RETAINER
10. SWIVEL RING
11. LEFT HAND HANGER BRACKET

TA 076378

MIXER-AUGER SYSTEM.

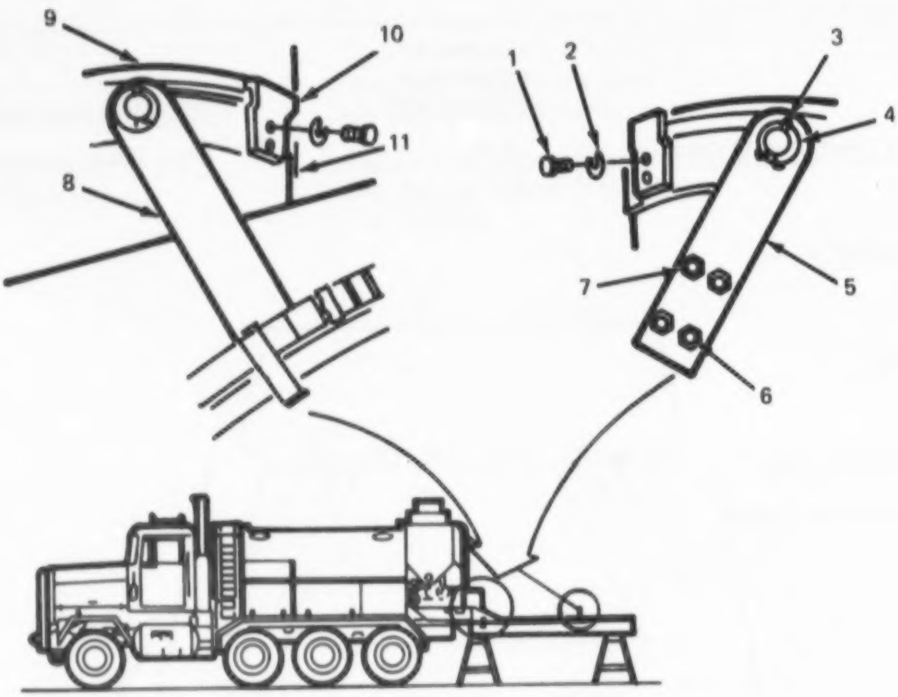
9-14. SWIVEL RING MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS
D. INSTALLATION OF TROUGH (Continued).		
12. Right hanger bracket (5).	a. Slide onto pin. b. Attach to trough with four nuts (7) and capscrews (6). Tighten nuts.	Capscrews are installed from the inside.
13. Two washers (4).	Slide over pins.	
14. Two cotter pins (3).	Slide through pins. Bend cotter pins to hold pins in place.	
15. Winch cable.	Draw up slack and remove hoist from trough.	
E. OPERATIONAL CHECK.		
16. Mixer trough.	a. Turn trough from side to side. Check for sticking or binding of swivel ring. b. Raise trough and latch. Always utilize safety chain.	

MIXER-AUGER SYSTEM.

9-14. SWIVEL RING MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS



LEGEND:

1. CAPSCREW (18)
2. LOCKWASHER (18)
3. COTTER PIN (2)
4. WASHER (2)
5. RIGHT HAND HANGER BRACKET
6. CAPSCREW (4)
7. NUT (4)
8. SWIVEL FRAME
9. SWIVEL RING RETAINER
10. SWIVEL RING
11. LEFT HAND HANGER BRACKET

TA 076379

MIXER-AUGER SYSTEM.

9-15. MINISKIRT ASSEMBLY MAINTENANCE.

THIS TASK COVERS: (APPROXIMATE TIME REQUIRED FOLLOWS TASK DESCRIPTION.)

a. Removal.	(10)
b. Installation.	(15)
	25 Minutes Total.

INITIAL SETUP

APPLICABLE CONFIGURATIONS

M919.

TEST EQUIPMENT

None.

SPECIAL TOOLS

None.

MATERIALS/PARTS (P/N)

Miniskirt, NP2730004 (50663).

EQUIPMENT CONDITION PARAGRAPH	CONDITION DESCRIPTION
9-9A.	Mixer Trough Lowered.

PERSONNEL REQUIRED

One (MOS-62B20).

REFERENCES (TM)

TM 5-3895-372-20P.
TM 5-3895-372-10.
TM 9-2320-273-10.

TROUBLESHOOTING REFERENCES

Table 9-1.

SPECIAL ENVIRONMENTAL CONDITIONS

Vehicle Parked on Level Ground.

GENERAL SAFETY INSTRUCTIONS

Engine Off.
Transmission in Neutral.
Parking Brake Set.
Safety Glasses Should be Worn When Working Around Cement.
Wet Cement and Concrete Can Cause Burns.

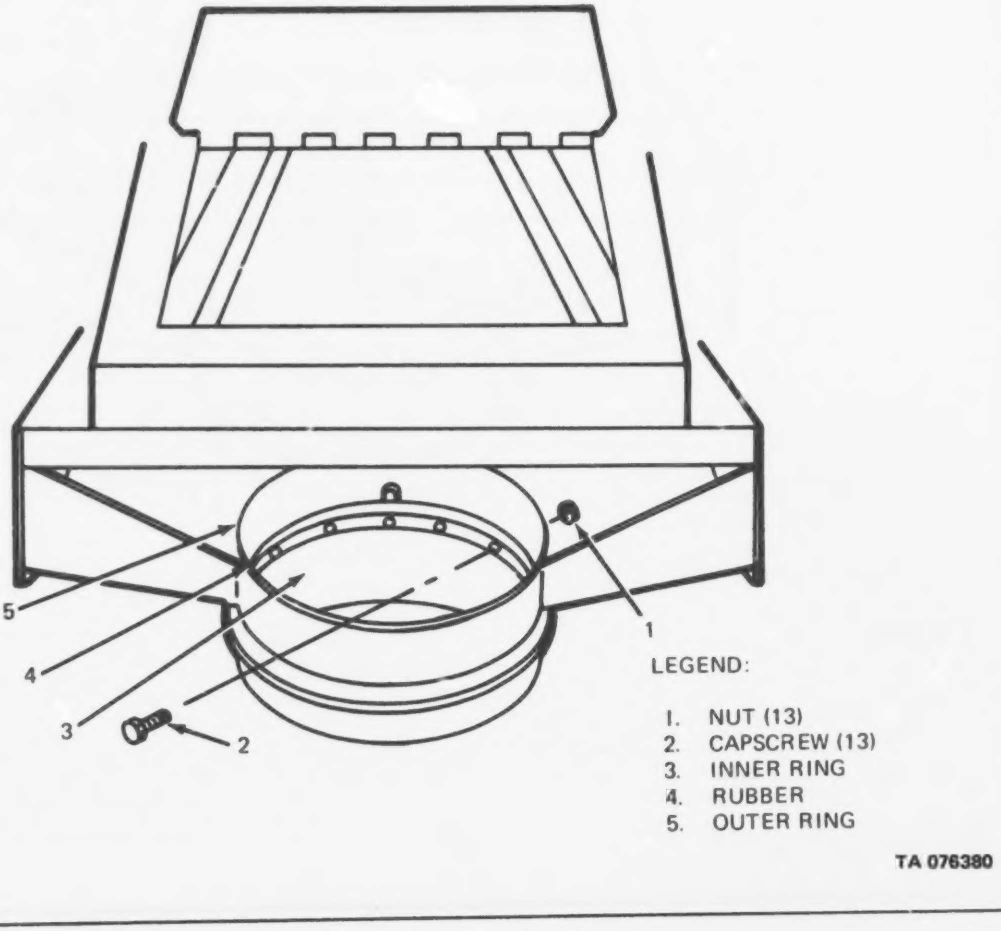
9-15. MINISKIRT ASSEMBLY MAINTENANCE (Continued).

NOTE

Auger should be lowered approximately 1/3 of the way from top to aid removal.

A. REMOVAL.

LOCATION/ITEM	ACTION	REMARKS
1. Inner ring (3), rubber (4), and outer ring (5).	Disconnect three hooks from pegs by rotating assembly.	
2. Thirteen nuts (1) and capscrews (2).	Unscrew and remove. Separate inner ring (3), rubber (4), and outer ring (5).	


5
4
3
2
1
1
LEGEND:
1. NUT (13)
2. CAPSCREW (13)
3. INNER RING
4. RUBBER
5. OUTER RING
TA 076380

MIXER-AUGER SYSTEM.

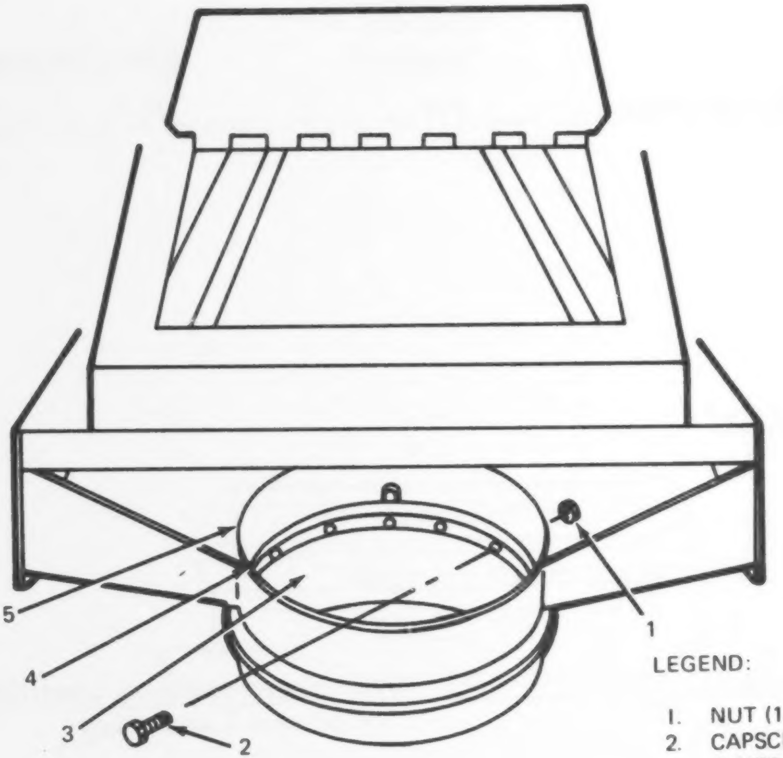
9-15. MINISKIRT ASSEMBLY MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS
B. INSTALLATION.		
3. New rubber (4).	a. Place under old rubber and mark holes with pencil. b. Cut out holes with a 5/16 in. punch or equivalent.	
4. Inner ring (3), rubber (4), and outer ring (5).	Assemble and aline bolt holes.	Opening in rubber must face forward when hooks are laid over pegs.
5. Thirteen capscrews (2) and nuts (1).	Install and tighten evenly.	
6. Inner ring (3), rubber (4), and outer ring (5).	Lift into swivel frame. Hook onto pegs.	
7. Mixer auger.	Raise and latch. Always utilize safety chain.	

MIXER-AUGER SYSTEM.

9-15. MINISKIRT ASSEMBLY MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS



LEGEND:

1. NUT (13)
2. CAPSCREW (13)
3. INNER RING
4. RUBBER
5. OUTER RING

TA 076381

MIXER-AUGER SYSTEM.

9-16. CHUTE MAINTENANCE.

THIS TASK COVERS: (APPROXIMATE TIME REQUIRED FOLLOWS TASK DESCRIPTION.)

Repair.	(20)
	20 Minutes Total.

INITIAL SETUP

EQUIPMENT CONDITION PARAGRAPH	CONDITION DESCRIPTION
None.	None.

APPLICABLE CONFIGURATIONS

M919.

TEST EQUIPMENT

None.

SPECIAL TOOLS

None.

MATERIALS/PARTS (P/N)

None.

PERSONNEL REQUIRED

One (MOS-62B20).

REFERENCES (TM)

TM 5-3895-372-20P.

TROUBLESHOOTING REFERENCES

Table 9-1.

SPECIAL ENVIRONMENTAL CONDITIONS

Vehicle Parked on Level Ground.

GENERAL SAFETY INSTRUCTIONS

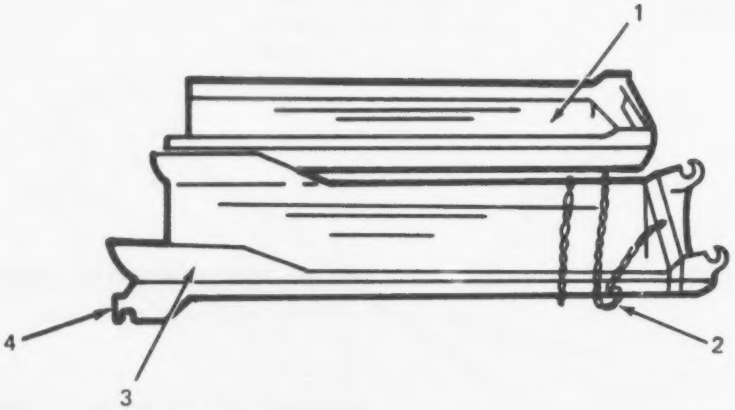
Engine Off.
Transmission in Neutral.
Parking Brake Set.
Wet Cement and Concrete Can Cause Burns.
Safety Glasses Should be Worn When Working with Cement.
Hitting Hard Concrete with Hammer Will Cause Chips to Fly.

9-16. CHUTE MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS
REPAIR.		
1. Chutes (1) or (3) and ear (4).	a. Hammer out any dents. b. Weld any cracks which are found using standard shop practices.	Refer to TM 9-237 for further welding guidance.
2. Chain (2).	Replace chain which has any broken links.	

NOTE

Chutes should be replaced if they do not fit properly after repairs have been made.



LEGEND:

1. CHUTE
2. CHAIN
3. CHUTE
4. EAR

TA 076382

MIXER-AUGER SYSTEM.

9-17. TROUGH GUARD MAINTENANCE.

THIS TASK COVERS: (APPROXIMATE TIME REQUIRED FOLLOWS TASK DESCRIPTION.)

a. Removal.	(10)
b. Installation.	(10).
	20 Minutes Total.

INITIAL SETUP

APPLICABLE CONFIGURATIONS

M919.

TEST EQUIPMENT

None.

SPECIAL TOOLS

None.

MATERIALS/PARTS (P/N)

None.

EQUIPMENT CONDITION PARAGRAPH	CONDITION DESCRIPTION
TM 5-3895-372-10.	Trough Lowered in a Horizontal Position.

PERSONNEL REQUIRED

One (MOS-62B20).

REFERENCES (TM)

LO 5-3895-372-12.
TM 5-3895-372-10.
TM 5-3895-372-20P.
TM 9-2320-273-10.

TROUBLESHOOTING REFERENCES

Table 9-1.

SPECIAL ENVIRONMENTAL CONDITIONS

Vehicle Parked on Level Ground.

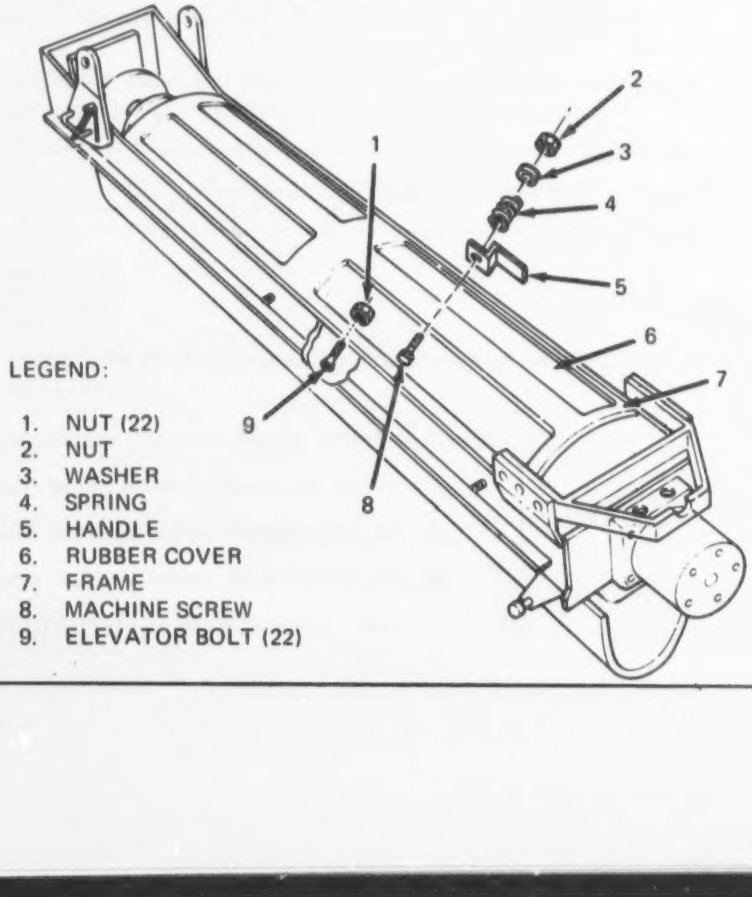
GENERAL SAFETY INSTRUCTIONS

Engine Off.
Transmission in Neutral.
Parking Brake Set.
Wet Cement and Concrete Can Cause Burns.

MIXER-AUGER SYSTEM.

9-17. TROUGH GUARD MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS
A. REMOVAL.		
	NOTE This procedure may be used for either trough guard.	
1. Twenty-two elevator bolts (9) and nuts (1).	Remove.	
2. Rubber cover (6).	Remove from frame (7).	Replace rubber cover (6) if deteriorated.
3. Machine screw (8) and nut (2).	Unscrew and remove handle (5), spring (4), and washer (3).	
B. INSTALLATION.		
4. Handle (5), spring (4), and washer (3).	a. Place in position. b. Install with machine screw (8) and nut (2).	
5. Rubber cover (6).	a. Position on frame (7). b. Install with twenty-two elevator bolts (9) and nuts (1).	


2
3
1
4
5
6
7
9
8
LEGEND:
1. NUT (22)
2. NUT
3. WASHER
4. SPRING
5. HANDLE
6. RUBBER COVER
7. FRAME
8. MACHINE SCREW
9. ELEVATOR BOLT (22)

TA 076383

CHAPTER 10

HYDRAULIC SYSTEM

10-1. OVERVIEW.

This chapter provides you with the following information related to hydraulic system maintenance.

a. All required special tools and equipment.

b. Troubleshooting procedures.

c. Maintenance procedures.

Section I REPAIR PARTS, SPECIAL TOOLS, TMDE, AND SUPPORT EQUIPMENT

10-2. COMMON TOOLS AND EQUIPMENT.

For authorized common tools and equipment, refer to the Modified Table of Organization and Equipment (MTOE) applicable to your unit.

10-3. SPECIAL TOOLS, TMDE, AND SUPPORT EQUIPMENT.

The special tools, TMDE, and support equipment for hydraulic system maintenance procedures described in this chapter are limited to hydraulic pressure gage, 0–2500 psi (0–17200 kPa). Refer to Organizational Maintenance RPSTL, TM 5-3895-372-20P for tool description and illustration.)

10-4. SPARES AND REPAIR PARTS.

Spares and repair parts are listed and illustrated in the Repair Parts and Special Tools list covering Organizational Maintenance for this equipment (TM 5-3895-372-20P).

Section II TROUBLESHOOTING

10-5. INTRODUCTION.

Troubleshooting procedures for the hydraulic system are given in table 10-1. It is arranged by malfunctions, in the following order:

a. Hydraulic motor does not operate (Malfunction No. 1).

b. Hydraulic pump is noisy (Malfunction No. 2).

c. Hydraulic pressure is low (Malfunction No. 3).

d. Hydraulic motor vibrates (Malfunction No. 4).

e. Tachometer does not work properly (Malfunction No. 5).

Table 10-1. Hydraulic System Troubleshooting Procedures.

MALFUNCTION

TEST OR INSPECTION

CORRECTIVE ACTION

1. HYDRAULIC MOTOR DOES NOT OPERATE:

Step 1. Check that tachometer reads 1620–1720 rpm.

Use throttle to adjust engine speed.

Step 2. Check to be sure bypass valve is closed.

Close bypass valve.

Step 3. Check oil level by removing cap and checking dipstick in hydraulic tank.

Add oil if needed (see LO 5-3895-372-12).

Step 4. Check filter for clogging.

Replace clogged filter (see TM 5-3895-372-10).

Step 5. Check hydraulic pump drive belt tension. Belts should deflect 5/32 in. (4.0mm) when 6 lb (27 N·m) pressure is applied.

Adjust drive belts (para 4-17).

Step 6. Check PTO drive belt tension. Belts should deflect 5/32 in. (4.0 mm) when 6 lb (27 N·m) pressure is applied.

Adjust drive belts (para 4-11).

Step 7. Check that proper type of hydraulic oil is being used. (See LO 5-3895-372-12.)

Fill system with correct oil.

Step 8. Check hydraulic lines for oil leaks.

Replace leaking lines on couplings (para 10-15).

Step 9. Check for air leaks at hydraulic pump intake.

Replace leaking line or coupling (para 10-15).

Step 10. Check hydraulic line oil pressure (10-10). Pressure should be 1900-2000 psi (13,100-13,800 kPa).

Adjust pressure valve (para 10-10).

Table 10-1. Hydraulic System Troubleshooting Procedures (Continued).

MALFUNCTION

TEST OR INSPECTION

CORRECTIVE ACTION

2. HYDRAULIC PUMP IS NOISY:

Step 1. Check for clogged filter.

Replace clogged filter (see TM 5-3895-372-10).

Step 2. Check that lines are tight.

Tighten.

Step 3. Rebuild hydraulic pump.

Refer problem to Direct Support Maintenance.

3. HYDRAULIC PRESSURE IS LOW:

Step 1. Check that tachometer reads 1620–1720 rpm.

Use throttle to adjust engine speed.

Step 2. When oil is hot, check hydraulic bypass valve for heat and leakage.

Clean hydraulic bypass valve (para 10-9).

Step 3. Check pressure relief valve adjustment (para 10-10).

a. Adjust pressure relief valve.

b. Refer problem to Direct Support Maintenance.

4. HYDRAULIC MOTOR VIBRATES:

Refer problem to Direct Support Maintenance.

5. TACHOMETER DOES NOT WORK PROPERLY:

Step 1. Be sure setscrews at cable ends are tight.

Tighten setscrews.

Step 2. Check hydraulic pump belts. Deflection should be 5/32 in. (4.0 mm) under 6 lb (27 N·m) pressure.

Adjust pump belts (para 4-17).

Table 10-1. Hydraulic System Troubleshooting Procedures (Continued).

MALFUNCTION

TEST OR INSPECTION

CORRECTIVE ACTION

---

5. TACHOMETER DOES NOT WORK PROPERLY (Continued):

Step 3. Remove cable and check for damage (para 10-12).

Replace damaged cable core or assembly.

Step 4. Replace tachometer.

Refer to para 10-12.

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Section III MAINTENANCE PROCEDURES

10-6. INTRODUCTION.

This section provides you with Organizational Level maintenance procedures for the hydraulic system of the mixer body. Paragraph 10-7 summarizes the maintenance tasks. Paragraphs 10-8 thru 10-16 contain detailed instructions for each task.

10-7. HYDRAULIC SYSTEM MAINTENANCE TASK SUMMARY.

INITIAL SETUP

APPLICABLE CONFIGURATIONS

M919.

TEST EQUIPMENT

Hydraulic Gage.
0-5000 psi (0-34475 kPa).

SPECIAL TOOLS

Auger Stop Tool, NP3817116 (50663).

MATERIALS/PARTS (P/N)

Filter Assembly, NP5014003 (50663).
Oil – (See Appendix C).
Teflon Tape – (See Appendix C).
Drain Pan.
GAA-Grease – (See Appendix C).
Tachometer, NP5016003 (50663).
Liquid Teflon – (See Appendix C).

PERSONNEL REQUIRED

Two (MOS-62B20).

REFERENCES (TM)

LO 5-3895-372-12.
TM 5-3895-372-10.
TM 5-3895-372-20P.
TM 9-2320-273-10.

TROUBLESHOOTING REFERENCES

Table 10-1.

EQUIPMENT CONDITION PARAGRAPH	CONDITION DESCRIPTION
LO 5-3895-372-12.	Oil Tank Drained.

SPECIAL ENVIRONMENTAL CONDITIONS

Vehicle Parked on Level Ground.

GENERAL SAFETY INSTRUCTIONS

Engine OFF.
Transmission in Neutral.
Park Brake Set.
Hydraulic Oil May Be Hot Enough to Burn Skin.
Wet Cement and Concrete Can Cause Burns.

LIST OF TASKS

TASK NO.	TASK	TASK REF	TROUBLESHOOTING REF (TABLE)
1.	Oil Filter Assembly Maintenance:	10-8	10-1
	A. Removal.	10-8A	
	B. Disassembly.	10-8B	
	C. Assembly.	10-8C	
	D. Installation.	10-8D	
	E. Operational Check.	10-8E	

10-7. HYDRAULIC SYSTEM MAINTENANCE TASK SUMMARY (Continued).

LIST OF TASKS

TASK NO.	TASK	TASK REF	TROUBLESHOOTING REF (TABLE)
2.	Bypass Valve Maintenance:	10-9	10-1
	A. Removal.	10-9A	
	B. Installation.	10-9B	
	C. Operational check.	10-9C	
3.	Relief Valve Adjustment:	10-10	10-1
	A. Test pressure.	10-10A	
	B. Adjustment.	10-10B	
	C. Gage removal.	10-10C	
4.	Relief Valve Maintenance:	10-11	10-1
	A. Removal.	10-11A	
	B. Installation.	10-11B	
	C. Operational check.	10-11C	
5.	Tachometer and Tachometer Cable Maintenance:	10-12	10-1
	A. Removal.	10-12A	
	B. Installation.	10-12B	
	C. Operational check.	10-12C	
6.	Lines and Fittings Maintenance:	10-13	10-1
	Removal and installation.	10-13	

10-7. HYDRAULIC SYSTEM MAINTENANCE TASK SUMMARY (Continued).

LIST OF TASKS

TASK NO.	TASK	TASK REF	TROUBLESHOOTING REF (TABLE)
7.	Oil Reservoir Maintenance:	10-14	10-1
	A. Removal.	10-14A	
	B. Repair.	10-14B	
	C. Installation.	10-14C	
	D. Operational check.	10-14D	
8.	Control Valve Maintenance:	10-15	10-1
	A. Removal.	10-15A	
	B. Installation.	10-15B	
	C. Operational check.	10-15C	
9.	Hydraulic Motor Maintenance:	10-16	10-1
	A. Removal.	10-16A	
	B. Installation.	10-16B	
	C. Operational check.	10-16C	

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HYDRAULIC SYSTEM.

10-8. OIL FILTER ASSEMBLY MAINTENANCE.

THIS TASK COVERS: (APPROXIMATE TIME REQUIRED FOLLOWS TASK DESCRIPTION.)

a. Removal.	(20)
b. Disassembly.	(10)
c. Assembly.	(10)
d. Installation.	(20)
e. Operational Check.	(5)
	65 Minutes Total.

INITIAL SETUP

EQUIPMENT CONDITION PARAGRAPH	CONDITION DESCRIPTION
None.	None.

APPLICABLE CONFIGURATIONS

M919.

TEST EQUIPMENT

None.

SPECIAL TOOLS

None.

MATERIALS/PARTS (P/N)

Hydraulic Oil (Refer to Appendix C).
Repair Kit (4330-01-044-2888).
Repair Kit, K23022 (09249).
Liquid Teflon (See Appendix C).

PERSONNEL REQUIRED

One (MOS-62B20).

REFERENCES (TM)

LO 5-3895-372-12.
TM 5-3895-372-10.
TM 5-3895-372-20P.
TM 9-2320-273-10.

TROUBLESHOOTING REFERENCES

Table 10-1.

SPECIAL ENVIRONMENTAL CONDITIONS

Vehicle Parked on Level Ground.

GENERAL SAFETY INSTRUCTIONS

Engine Off.
Transmission in Neutral.
Parking Brake Set.
Hydraulic Oil May Be Hot Enough to Burn Skin.

HYDRAULIC SYSTEM.

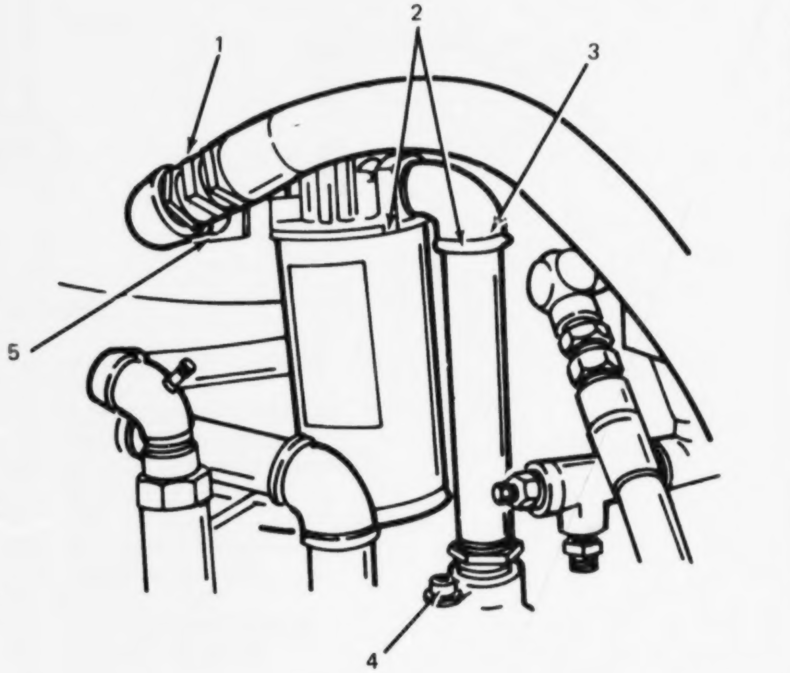
10-8. OIL FILTER ASSEMBLY MAINTENANCE (Continued).

NOTE

Before beginning service drain oil reservoir and raise rear access panel (refer to LO 5-3895-372-12).

A. REMOVAL.

LOCATION/ITEM	ACTION	REMARKS
1. Swivel nut (1).	Remove.	Swing hose upward around access panel.
2. Four allen-head bolts and lockwashers (4).	Remove.	
3. Oil filter and pump inlet pipe (2).	Remove from vehicle.	Use drain pan to catch excess oil.
4. Street elbow (5).	Remove from filter head.	
5. Street elbow (3).	Remove from filter head.	



LEGEND:

1. SWIVEL NUT
2. OIL FILTER AND PUMP INLET PIPE
3. STREET ELBOW
4. ALLEN HEAD BOLT AND LOCKWASHER (4)
5. STREET ELBOW

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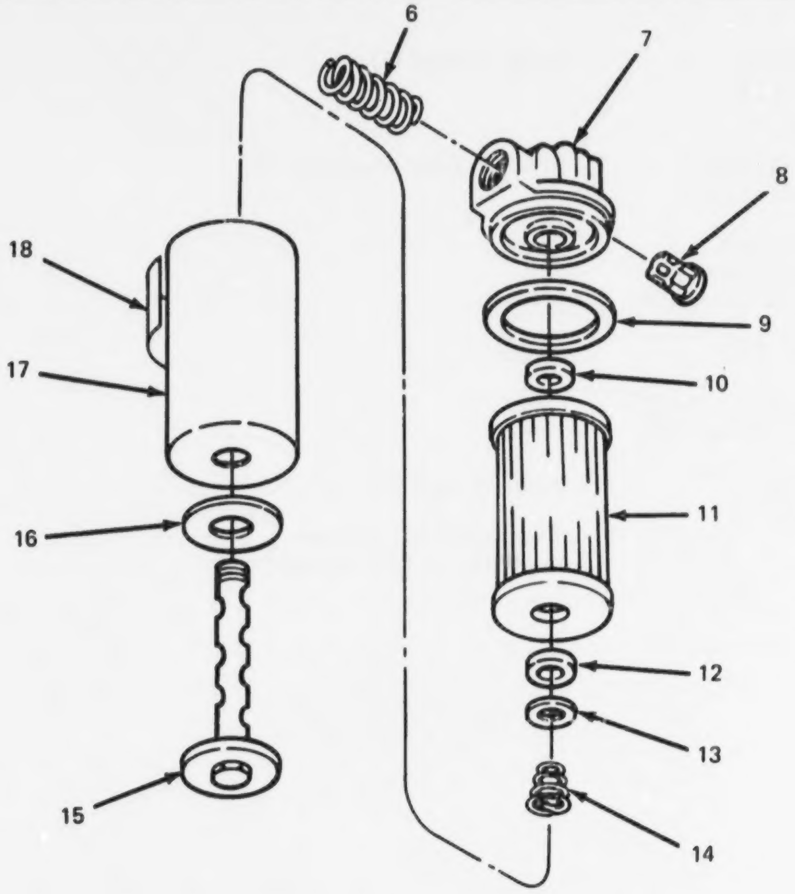
10-8. OIL FILTER ASSEMBLY MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS
B. DISASSEMBLY.		
6. Center post (15).	Remove from head (7).	Leave center post (15) inserted through filter housing (17).
7. Preformed packing (9) and filter element top seal (10).	Remove.	
8. Filter element (11).	Remove from filter housing (17).	
9. Filter element bottom seal (12), backup washer (13) and conical spring (14).	Remove.	
10. Center post (15) and center post gasket (16).	Remove from filter housing (17).	
11. Relief valve spring (6) and relief valve poppet (8).	Remove from head (7).	
12. Decal (18).	Remove decal from filter housing (17) if necessary.	Use a sharp tool.

HYDRAULIC SYSTEM.

10-8. OIL FILTER ASSEMBLY MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS



LEGEND:

6. RELIEF VALVE SPRING
7. HEAD
8. RELIEF VALVE POPPET
9. PREFORMED PACKING
10. FILTER ELEMENT TOP SEAL
11. FILTER ELEMENT
12. FILTER ELEMENT BOTTOM SEAL
13. BACK-UP WASHER
14. CONICAL SPRING
15. CENTER POST
16. CENTER POST GASKET
17. FILTER HOUSING
18. DECAL

TA 076385

HYDRAULIC SYSTEM.

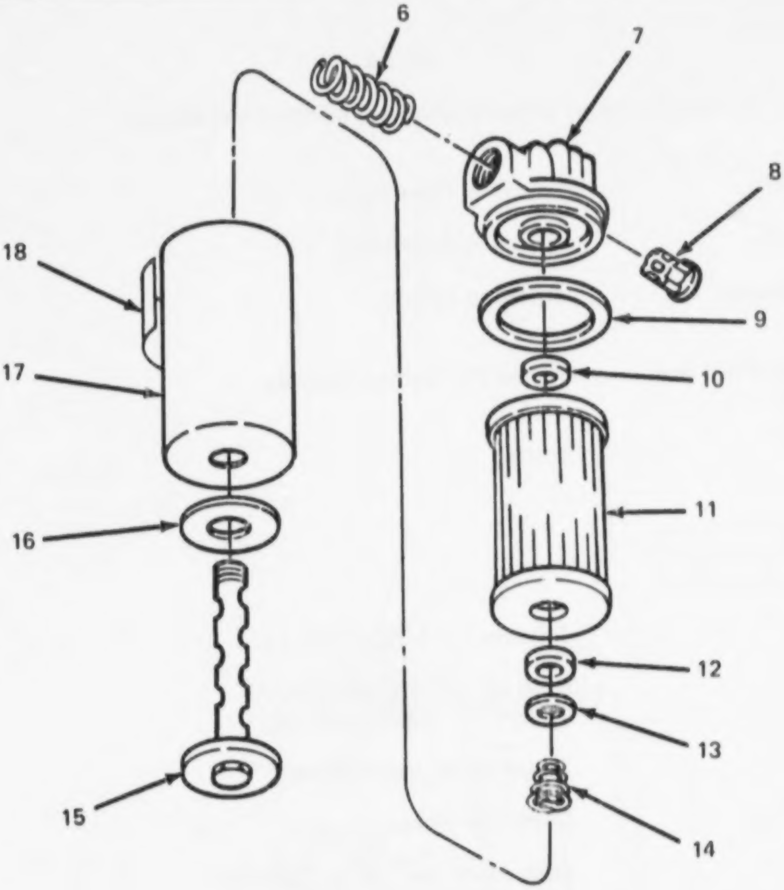
10-8. OIL FILTER ASSEMBLY MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS
C. ASSEMBLY.		
13. Relief valve spring (6) and relief valve poppet (8).	Install in head (7).	
14. Center post (15) and center post gasket (16).	Install in filter housing (17).	
15. Filter element bottom seal (12), backup washer (13) and conical spring (14).	Install.	
16. Filter element (11).	Install.	
17. Preformed packing (9) and filter element top seal (10).	Install.	
18. Center post (15).	Install in head (7).	
19. Decal (18).	If removed, install a new decal (18) on filter housing (17).	

HYDRAULIC SYSTEM.

10-8. OIL FILTER ASSEMBLY MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS



LEGEND:

6. RELIEF VALVE SPRING
7. HEAD
8. RELIEF VALVE POPPET
9. PREFORMED PACKING
10. FILTER ELEMENT TOP SEAL
11. FILTER ELEMENT
12. FILTER ELEMENT BOTTOM SEAL
13. BACK-UP WASHER
14. CONICAL SPRING
15. CENTER POST
16. CENTER POST GASKET
17. FILTER HOUSING
18. DECAL

TA 076386

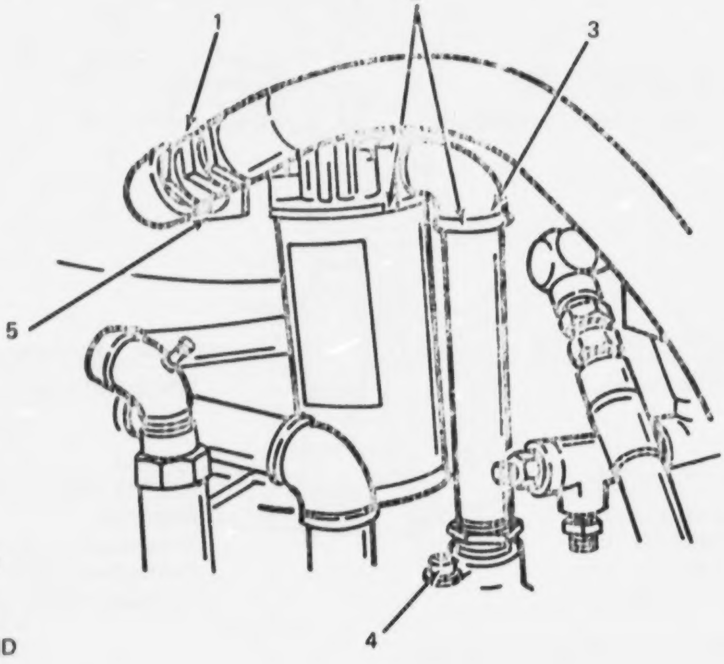
10-8. OIL FILTER ASSEMBLY MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS
D. INSTALLATION.		
	NOTE Apply liquid teflon to threaded joints at installation.	
20. Street elbow (3).	Install in filter head.	
21. Street elbow (5).	Install in filter head.	
22. Oil filter and pump inlet pipe (2).	Install in vehicle.	
23. Four allen-head bolts and lockwashers (4).	Install and tighten securely.	
24. Swivel nut (1).	Install.	
E. OPERATIONAL CHECK.		
25. Oil reservoir.	Fill (see LO 5-3895-372-12).	
26. Mixer.	Start up (see TM 9-2320-273-10 and TM 5-3895-372-10).	
27. Auger.	Lower auger and activate.	
28. Oil filter assembly.	Check for leaks.	
29. Mixer.	Shut down (see TM 9-2320-273-10 and TM 5-3895-372-10).	
30. Auger.	Raise and secure with safety chain.	

HYDRAULIC SYSTEM.

10-8. OIL FILTER ASSEMBLY MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS



LEGEND:

1. SWIVEL NUT
2. OIL FILTER AND PUMP INLET PIPE
3. STREET ELBOW
4. ALLEN HEAD BOLT AND LOCKWASHER (4)
5. STREET ELBOW

TA 076387

HYDRAULIC SYSTEM.

10-9. BYPASS VALVE MAINTENANCE.

THIS TASK COVERS: (APPROXIMATE TIME REQUIRED FOLLOWS TASK DESCRIPTION.)

a. Removal.	(10)
b. Installation.	(10)
c. Operational Check.	(5)
	25 Minutes Total.

INITIAL SETUP

EQUIPMENT CONDITION PARAGRAPH	CONDITION DESCRIPTION
LO 5-3895-372-12.	Hydraulic Oil Reservoir Drained.

APPLICABLE CONFIGURATIONS

M919.

TEST EQUIPMENT

None.

SPECIAL TOOLS

None.

MATERIALS/PARTS (P/N)

Teflon Tape (Refer to Appendix C).
Drain Pan.

PERSONNEL REQUIRED

One (MOS-62B20).

REFERENCES (TM)

LO 5-3895-372-12.
TM 5-3895-372-10.
TM 5-3895-372-20P.
TM 9-2320-273-10.

TROUBLESHOOTING REFERENCES

Table 10-1.

SPECIAL ENVIRONMENTAL CONDITIONS

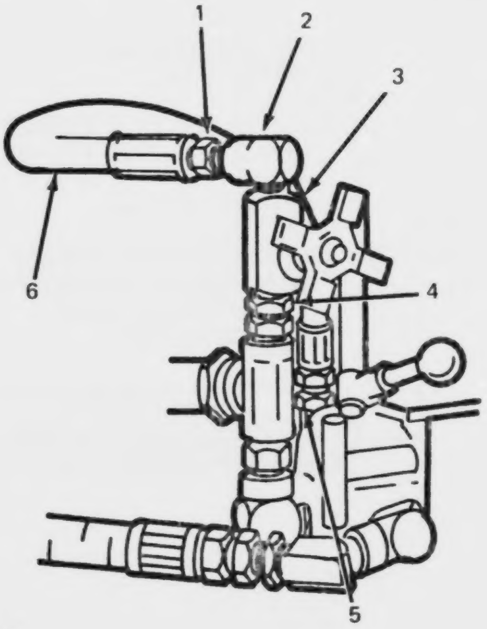
Vehicle Parked on Level Ground.

GENERAL SAFETY INSTRUCTIONS

Engine Off.
Transmission in Neutral.
Parking Brake Set.
Hydraulic Oil May Be Hot Enough to Burn Skin.

10-9. BYPASS VALVE MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS
A. REMOVAL.		
1. Swivel nut (5).	Disconnect.	Catch excess oil in drain pan.
2. Fitting (1).	Remove. Remove hose (6) from vehicle.	Catch excess oil in drain pan.
3. 90° elbow (2).	Remove.	
4. Bypass valve (3).	Remove from adapter (4).	



LEGEND:

1. FITTING
2. 90° ELBOW
3. BYPASS VALVE
4. ADAPTER
5. SWIVEL NUT
6. HOSE

TA 076388

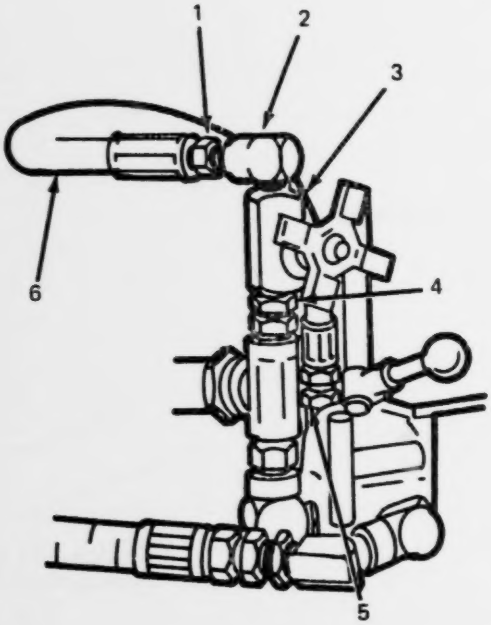
HYDRAULIC SYSTEM.

10-9. BYPASS VALVE MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS
B. INSTALLATION.		
	NOTE Apply liquid teflon to threaded joints at assembly.	
5. Bypass valve (3).	Install in adapter (4).	
6. 90° elbow (2).	Install.	
7. Hose (6).	Install fitting (1) in 90° elbow (2).	
8. Swivel nut (5).	Connect.	
C. OPERATIONAL CHECK.		
9. Oil reservoir.	Fill. (Refer to LO 5-3895-372-12).	
10. Mixer body.	Start up (see TM 9-2320-273-10 and TM 5-3895-372-10).	
11. Auger.	Unlatch and lower.	
12. Bypass valve (3).	a. Activate auger. Check to see if bypass valve will limit auger rotation speed. b. Check for leaks.	
13. Auger.	Shut down. Raise and latch.	
14. Mixer body.	Shut down (see TM 9-2320-273-10 and TM 5-3895-372-10).	

10-9. BYPASS VALVE MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS



LEGEND:

1. FITTING
2. 90° ELBOW
3. BYPASS VALVE
4. ADAPTER
5. SWIVEL NUT
6. HOSE

TA 076389

HYDRAULIC SYSTEM.

10-10. RELIEF VALVE ADJUSTMENT.

THIS TASK COVERS: (APPROXIMATE TIME REQUIRED FOLLOWS TASK DESCRIPTION.)

a. Test Pressure.	(5)
b. Adjustment.	(10)
c. Gage Removal.	(5)
	20 Minutes Total.

INITIAL SETUP

APPLICABLE CONFIGURATIONS

M919.

TEST EQUIPMENT

Hydraulic Test Gage.
0-5000 PSI (0-34475 kPa).

SPECIAL TOOLS

Auger Stop Tool, NP3817116 (50663).

MATERIALS/PARTS (P/N)

None.

EQUIPMENT CONDITION PARAGRAPH	CONDITION DESCRIPTION
None.	None.

PERSONNEL REQUIRED

Two (MOS-62B20).

REFERENCES (TM)

TM 5-3895-372-10.
TM 5-3895-372-20P.
TM 9-2320-273-10.

TROUBLESHOOTING REFERENCES

Table 10-1.

SPECIAL ENVIRONMENTAL CONDITIONS

Vehicle Parked on Level Ground.

GENERAL SAFETY INSTRUCTIONS

Engine Off.
Transmission in Neutral.
Parking Brake Set.
Hydraulic Oil May Be Hot Enough to Burn Skin.

HYDRAULIC SYSTEM.

10-10. RELIEF VALVE ADJUSTMENT (Continued).

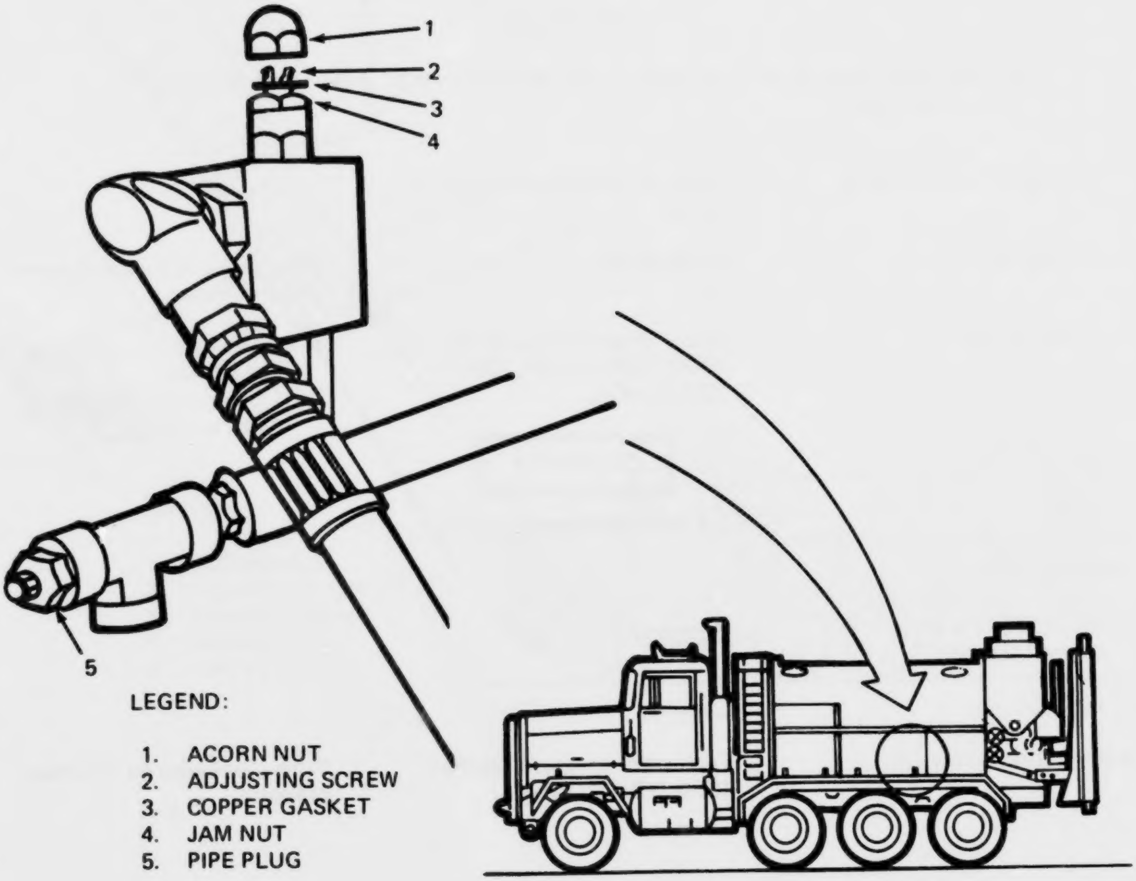
LOCATION/ITEM	ACTION	REMARKS

A. TEST PRESSURE.

NOTE

Perform test with engine running and hydraulic oil warmed up.

LOCATION/ITEM	ACTION	REMARKS
1. Pipe plug (5).	a. Remove. b. Screw in hydraulic gage.	
2. Bypass valve.	Open.	



LEGEND:

1. ACORN NUT
2. ADJUSTING SCREW
3. COPPER GASKET
4. JAM NUT
5. PIPE PLUG

TA 076390

10-10. RELIEF VALVE ADJUSTMENT (Continued).

LOCATION/ITEM	ACTION	REMARKS
A. TEST PRESSURE (Continued).		
3. Mixer-auger.	Hold with auger stop tool, turn slowly until wrench lodges against side of trough. Do not allow auger to turn while you test hydraulic pressure.	
4. Mixer body.	Start up and engage PTO. (Refer to TM 9-2320-273-10.)	
5. Hand throttle, tachometer.	Adjust throttle until tachometer reads 1250.	Maintain this pump speed throughout test.

WARNING

Do not open valve quickly or wrench will be thrown free. Turn valve slowly until completely open.

LOCATION/ITEM	ACTION	REMARKS
6. Hydraulic control valve.	Open as if starting hydraulic motor.	
7. Bypass valve.	Close slowly.	Continue until valve is completely closed.
8. Pressure gage.	Read. Pressure should be 1900-2000 psi (13,100-13,800 kPa).	a. If pressure is correct, go to Part C. b. If pressure needs adjustment, go to Part B.

CAUTION

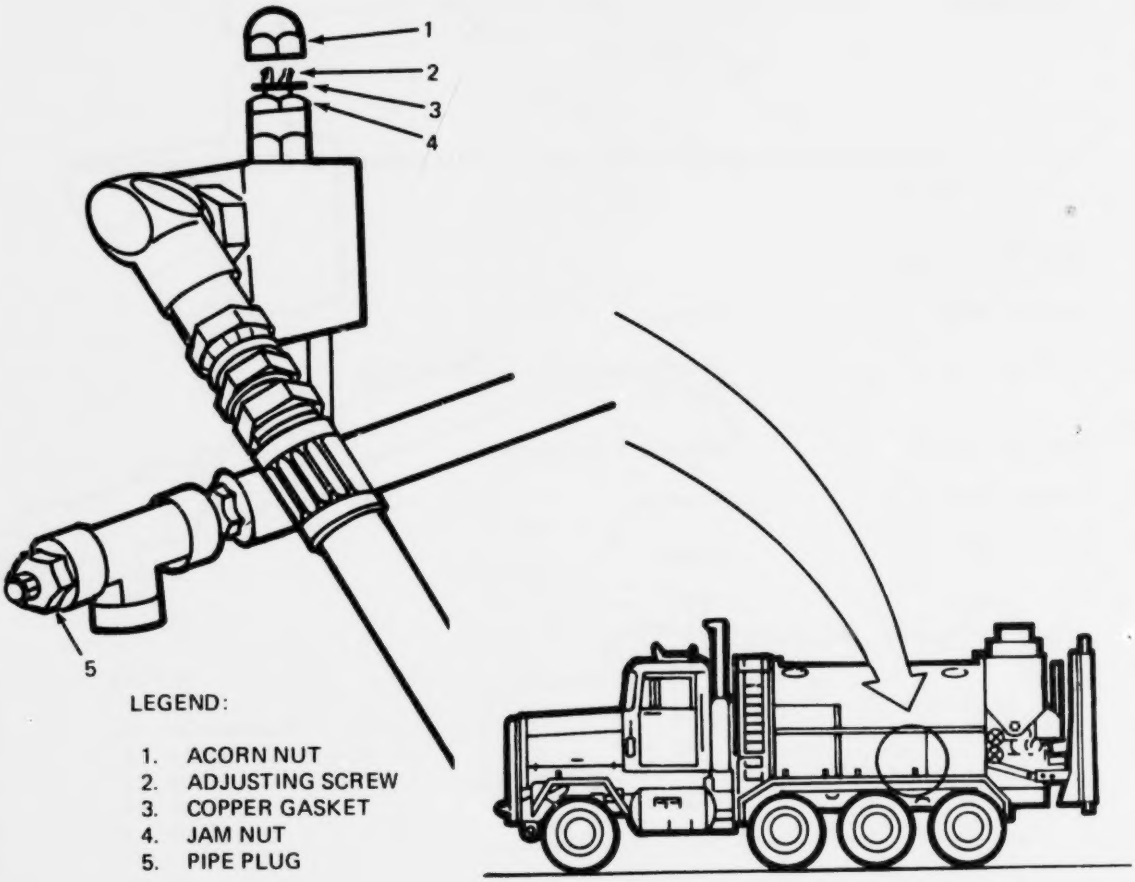
Do not lose copper gasket.

LOCATION/ITEM	ACTION	REMARKS
B. ADJUSTMENT.		
9. Acorn nut (1) and copper gasket (3).	Remove.	
10. Jam nut (4).	Loosen.	
11. Adjusting screw (2).	Turn until pressure reaches 1950 (13,450 kPa).	Turn clockwise to increase pressure.

HYDRAULIC SYSTEM.

10-10. RELIEF VALVE ADJUSTMENT (Continued).

LOCATION/ITEM	ACTION	REMARKS



LEGEND:

1. ACORN NUT
2. ADJUSTING SCREW
3. COPPER GASKET
4. JAM NUT
5. PIPE PLUG

TA 076391

HYDRAULIC SYSTEM.

10-10. RELIEF VALVE ADJUSTMENT (Continued).

B. ADJUSTMENT (Continued).

LOCATION/ITEM	ACTION	REMARKS
12. Jam nut (4).	Tighten.	
13. Copper gasket (3) and acorn nut (1).	Screw on and tighten.	
14. Pressure gage.	Read. Pressure should be 1900-2000 psi (13,100-13,800 kPa).	

NOTE

If you are unable to obtain proper pressure, refer problem to Direct Support Maintenance.

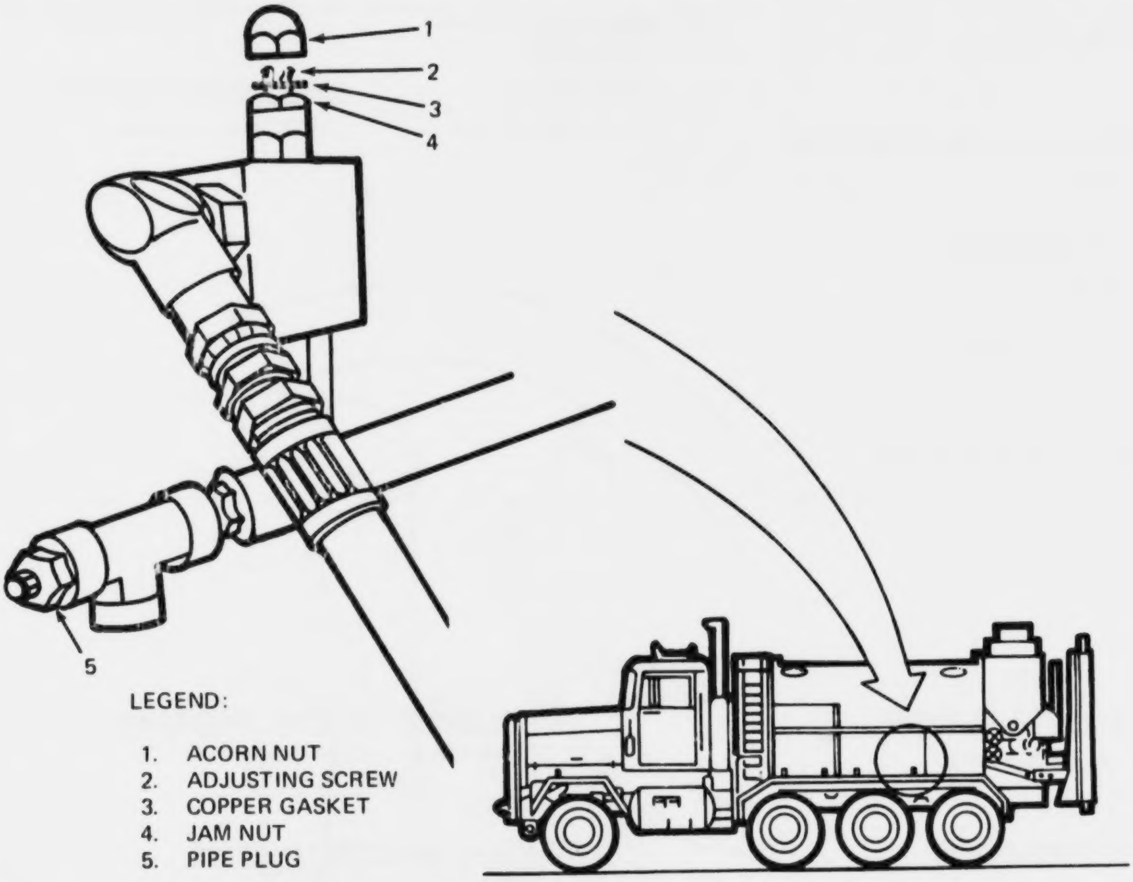
C. GAGE REMOVAL.

LOCATION/ITEM	ACTION	REMARKS
15. Control valve.	Close.	
16. Engine.	Shut down. Refer to TM 9-2320-273-10.	
17. Auger stop tool.	Remove from auger.	
18. Pressure gage.	Remove.	
19. Pipe plug (5).	Install.	

HYDRAULIC SYSTEM.

10-10. RELIEF VALVE ADJUSTMENT (Continued).

LOCATION/ITEM	ACTION	REMARKS



LEGEND:

1. ACORN NUT
2. ADJUSTING SCREW
3. COPPER GASKET
4. JAM NUT
5. PIPE PLUG

TA 076392

HYDRAULIC SYSTEM.

10-11. RELIEF VALVE MAINTENANCE.

THIS TASK COVERS: (APPROXIMATE TIME REQUIRED FOLLOWS TASK DESCRIPTION.)

a. Removal.	(10)
b. Installation.	(10)
c. Operational Check.	(10)
	30 Minutes Total.

INITIAL SETUP

APPLICABLE CONFIGURATIONS

M919.

TEST EQUIPMENT

None.

SPECIAL TOOLS

None.

MATERIALS/PARTS (P/N)

Liquid Teflon (Refer to Appendix C).
Oil (Refer to Appendix C).

PERSONNEL REQUIRED

One (MOS-62B20).

REFERENCES (TM)

LO 5-3895-372-12.
TM 5-3895-372-10.
TM 5-3895-372-20P.
TM 9-2320-273-10.

TROUBLESHOOTING REFERENCES

Table 10-1.

EQUIPMENT CONDITION PARAGRAPH	CONDITION DESCRIPTION
LO 5-3895-372-12.	Oil Reservoir Drained.

SPECIAL ENVIRONMENTAL CONDITIONS

Vehicle Parked on Level Ground.

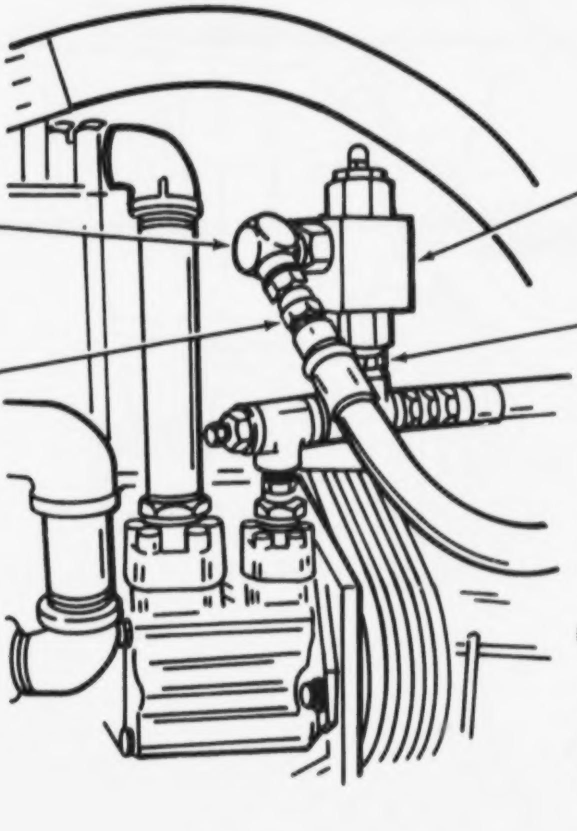
GENERAL SAFETY INSTRUCTIONS

Engine Off.
Transmission in Neutral.
Parking Brake Set.
Hydraulic Oil May Be Hot Enough to Burn Skin.

HYDRAULIC SYSTEM.

10-11. RELIEF VALVE MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS
A. REMOVAL.		
1. Swivel nut (3).	Remove.	
2. 90° elbow (4).	Remove.	
3. Relief valve (1).	Remove from adapter (2).	



LEGEND:

1. RELIEF VALVE
2. ADAPTER
3. SWIVEL NUT
4. 90° ELBOW

TA 076393

10-11. RELIEF VALVE MAINTENANCE (Continued).

B. INSTALLATION.

NOTE

Apply liquid teflon to threaded joints at installation.

LOCATION/ITEM	ACTION	REMARKS
4. Relief valve (1).	Install in adapter (2).	
5. 90° elbow (4).	Install.	
6. Swivel nut (3).	Install and tighten securely.	

NOTE

Follow on maintenance action required:

Fill oil reservoir; refer to LO 5-3895-372-12.

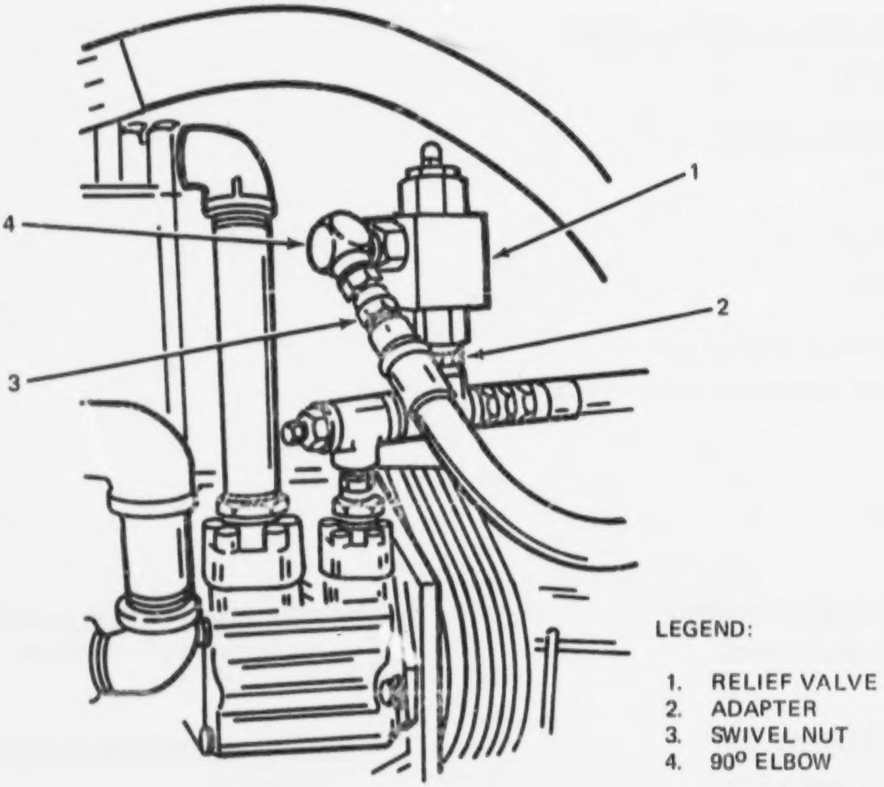
C. OPERATIONAL CHECK.

NOTE

After installing a new relief valve, always test and adjust to specifications. For this procedure refer to paragraph 10-10.

10-11. RELIEF VALVE MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS


1
2
3
4
LEGEND:
1. RELIEF VALVE
2. ADAPTER
3. SWIVEL NUT
4. 90° ELBOW

TA 076394

HYDRAULIC SYSTEM.

10-12. TACHOMETER AND TACHOMETER CABLE MAINTENANCE.

THIS TASK COVERS: (APPROXIMATE TIME REQUIRED FOLLOWS TASK DESCRIPTION.)

a. Removal.	(10)
b. Installation.	(10)
c. Operational Check.	(5)
	25 Minutes Total.

INITIAL SETUP

APPLICABLE CONFIGURATIONS

M919.

TEST EQUIPMENT

None.

SPECIAL TOOLS

None.

MATERIALS/PARTS (P/N)

GAA Grease (Refer to Appendix C).

EQUIPMENT CONDITION PARAGRAPH	CONDITION DESCRIPTION
None.	None.

PERSONNEL REQUIRED

One (MOS-62B20).

REFERENCES (TM)

LO 5-3895-372-12.
TM 5-3895-372-10.
TM 5-3895-372-20P.
TM 9-2320-273-10.

TROUBLESHOOTING REFERENCES

Table 10-1.

SPECIAL ENVIRONMENTAL CONDITIONS

Vehicle Parked on Level Ground.

GENERAL SAFETY INSTRUCTIONS

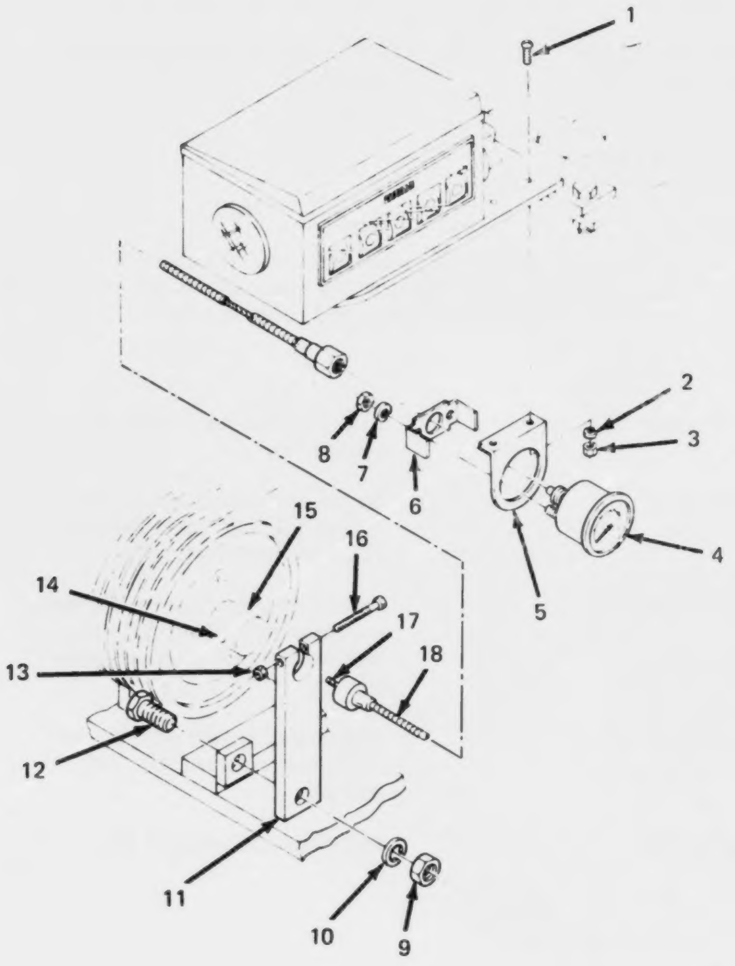
Engine Off.
Transmission in Neutral.
Parking Brake Set.

10-12. TACHOMETER AND TACHOMETER CABLE MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS
A. REMOVAL.		
1. One setscrew (14).	Loosen.	
2. Screw (16) and nut (13).	Loosen.	
3. Cable (18).	Slide out of bracket (11).	
4. Screw (12), lockwasher (10) and nut (9).	Remove and remove bracket (11).	

LEGEND:

1. SCREW (2)
2. LOCKWASHER (2)
3. NUT (2)
4. TACHOMETER
5. BRACKET
6. BRACKET
7. WASHER (2)
8. NUT (2)
9. NUT
10. LOCKWASHER
11. BRACKET
12. SCREW
13. NUT
14. SETSCREW
15. TACH DRIVE
16. SCREW
17. INNER CABLE
18. CABLE



TA 076395

10-12. TACHOMETER AND TACHOMETER CABLE MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS
A. REMOVAL (Continued).		
5. Inner cable (17).	Pull out of tach drive (15).	
6. Cable (18).	Remove from tachometer.	
7. Screw (1), lockwasher (2) and nut (3).	Remove from bracket (5).	
8. Nut (8) and washer (7).	Unscrew and remove bracket (6).	
9. Bracket (5).	Remove from tachometer (4).	
10. Inner cable (17) and cable (18).	Pull internal cable (17) from cable (18).	

B. INSTALLATION.

NOTE

If the inner cable (17) is damaged, you may pull it out and put a new inner cable in the old cable (18). Make certain new cable is the same length as the old one. You may also replace inner cable and cable as a unit.

LOCATION/ITEM	ACTION	REMARKS
11. Inner cable (17).	Apply grease and install in cable (18).	
12. Bracket (5).	Install and secure using two screws (1), two lockwashers (2), and three nuts (3).	
13. Tachometer (4).	Install through bracket (5) and secure with bracket (6), two lockwashers (7) and two nuts (8).	
14. Bracket (11).	Install and secure with screw (12), lockwasher (10), and nut (9).	
15. Cable (18).	Install on tachometer (4).	

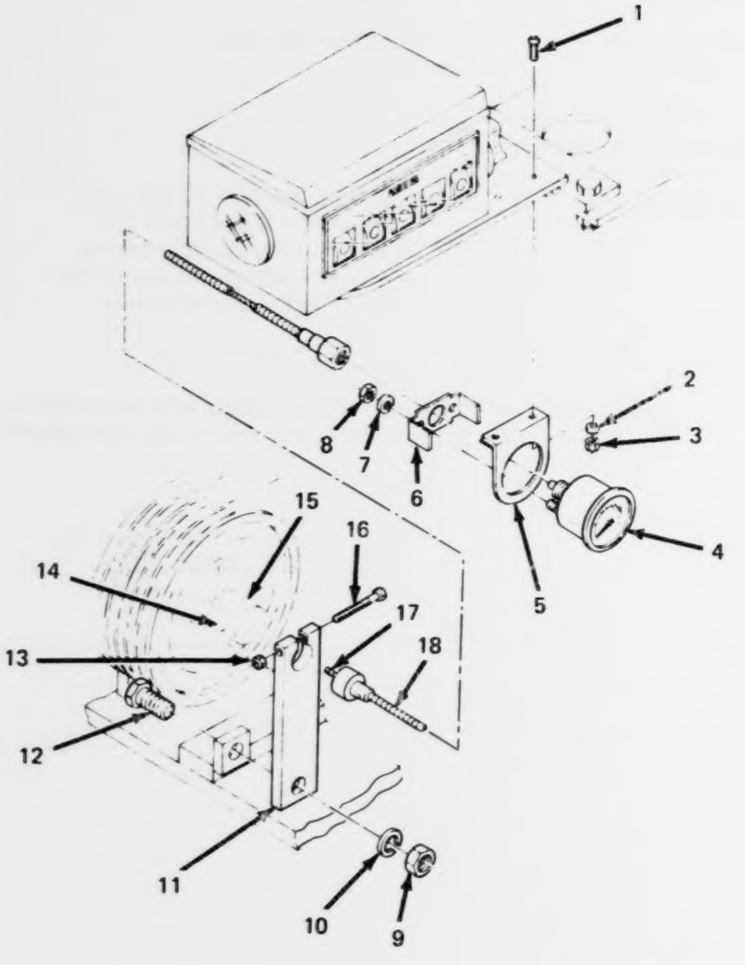
HYDRAULIC SYSTEM.

10-12. TACHOMETER AND TACHOMETER CABLE MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS

LEGEND:

1. SCREW (2)
2. LOCKWASHER (2)
3. NUT (2)
4. TACHOMETER
5. BRACKET
6. BRACKET
7. WASHER (2)
8. NUT (2)
9. NUT
10. LOCKWASHER
11. BRACKET
12. SCREW
13. NUT
14. SETSCREW
15. TACH DRIVE
16. SCREW
17. INNER CABLE
18. CABLE



TA 076396

10-12. TACHOMETER AND TACHOMETER CABLE MAINTENANCE (Continued).

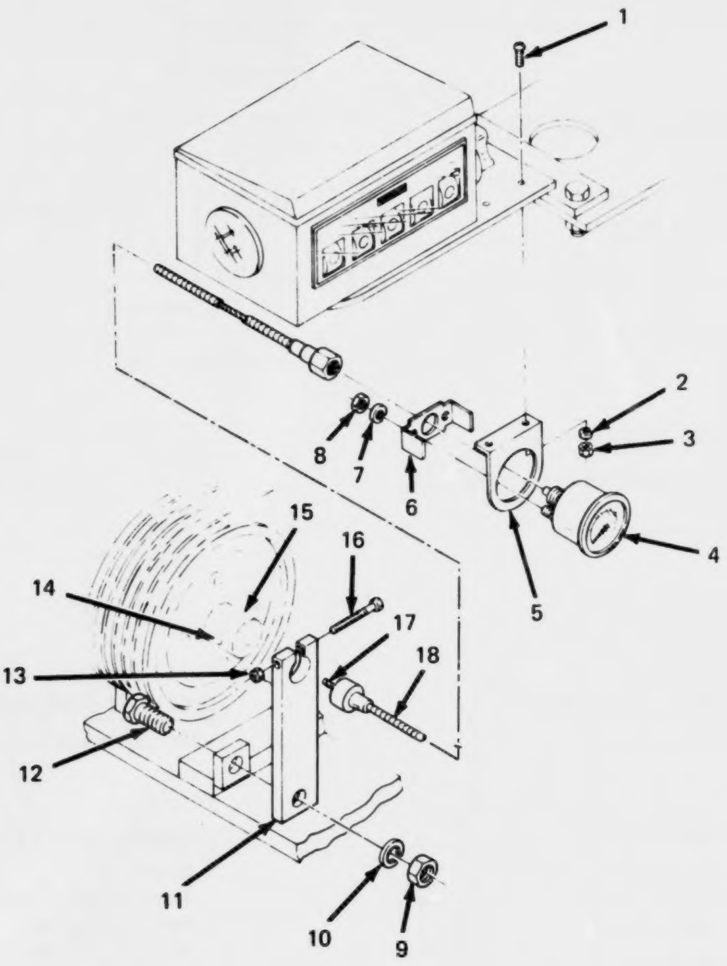
LOCATION/ITEM	ACTION	REMARKS
B. INSTALLATION (Continued).		
16. Cable (18).	Slide through bracket (11) and install inner cable (17) into tach drive (15).	
17. Setscrew (14).	Tighten.	
18. Screw (16) and nut (13).	Tighten securely.	
C. OPERATIONAL CHECK.		
19. Mixer body.	Start up (see TM 9-2320-273-10 and TM 5-3895-372-10). Check for normal tachometer reading. Vary engine speed and check tachometer response.	
	NOTE If setscrew (14) and cable (18) are secure and tachometer still does not operate, disconnect cable at tachometer end and replace tachometer (4).	
20. Mixer body.	Shut down (see TM 9-2320-273-10 and TM 5-3895-372-10).	

10-12. TACHOMETER AND TACHOMETER CABLE MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS

LEGEND:

1. SCREW (2)
2. LOCKWASHER (2)
3. NUT (2)
4. TACHOMETER
5. BRACKET
6. BRACKET
7. WASHER (2)
8. NUT (2)
9. NUT
10. LOCKWASHER
11. BRACKET
12. SCREW
13. NUT
14. SETSCREW
15. TACH DRIVE
16. SCREW
17. INNER CABLE
18. CABLE



TA 076397

HYDRAULIC SYSTEM.

10-13. LINES AND FITTINGS MAINTENANCE.

THIS TASK COVERS: (APPROXIMATE TIME REQUIRED FOLLOWS TASK DESCRIPTION.)

Removal and Installation.	(AR)
	(AR) Minutes Total.

INITIAL SETUP

APPLICABLE CONFIGURATIONS

M919.

TEST EQUIPMENT

None.

SPECIAL TOOLS

None.

MATERIALS/PARTS (P/N)

Liquid Teflon (Refer to Appendix C).
Marking Pen.
Masking Tape.

EQUIPMENT CONDITION PARAGRAPH	CONDITION DESCRIPTION
LO 5-3895-372-12.	Oil Reservoir Drained.

PERSONNEL REQUIRED

One (MOS-62B20).

REFERENCES (TM)

TM 5-3895-372-10.
TM 5-3895-372-20P.
LO 5-3895-372-12.
TM 9-2320-273-10.

TROUBLESHOOTING REFERENCES

Table 10-1.

SPECIAL ENVIRONMENTAL CONDITIONS

Vehicle Parked on Level Ground.

GENERAL SAFETY INSTRUCTIONS

Engine Off.
Transmission in Neutral.
Parking Brake Set.
Hydraulic Oil May Be Hot Enough to Burn Skin.

HYDRAULIC SYSTEM.

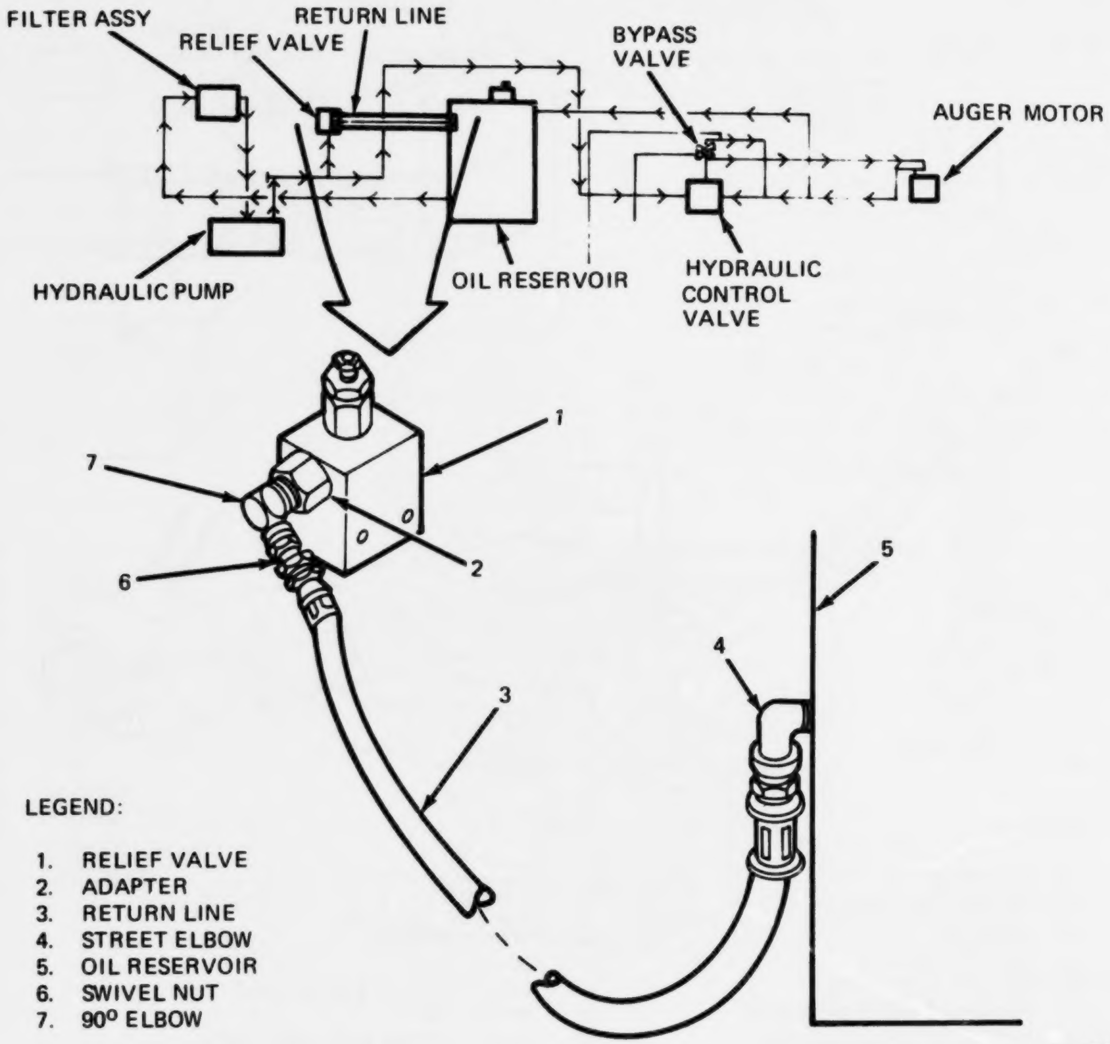
10-13. LINES AND FITTINGS MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS

REMOVAL AND INSTALLATION.

NOTE

All hydraulic lines are removed and installed using standard shop practices. On lines with swivel nut on one end only, remember that the swivel nut must be removed first. Drain oil reservoir before beginning service and apply liquid teflon to all threaded joints at installation. Mark each line at removal for ease of proper installation.


FILTER ASSY
RETURN LINE
RELIEF VALVE
BYPASS VALVE
AUGER MOTOR
HYDRAULIC PUMP
OIL RESERVOIR
HYDRAULIC CONTROL VALVE
1
7
2
6
5
4
3

LEGEND:

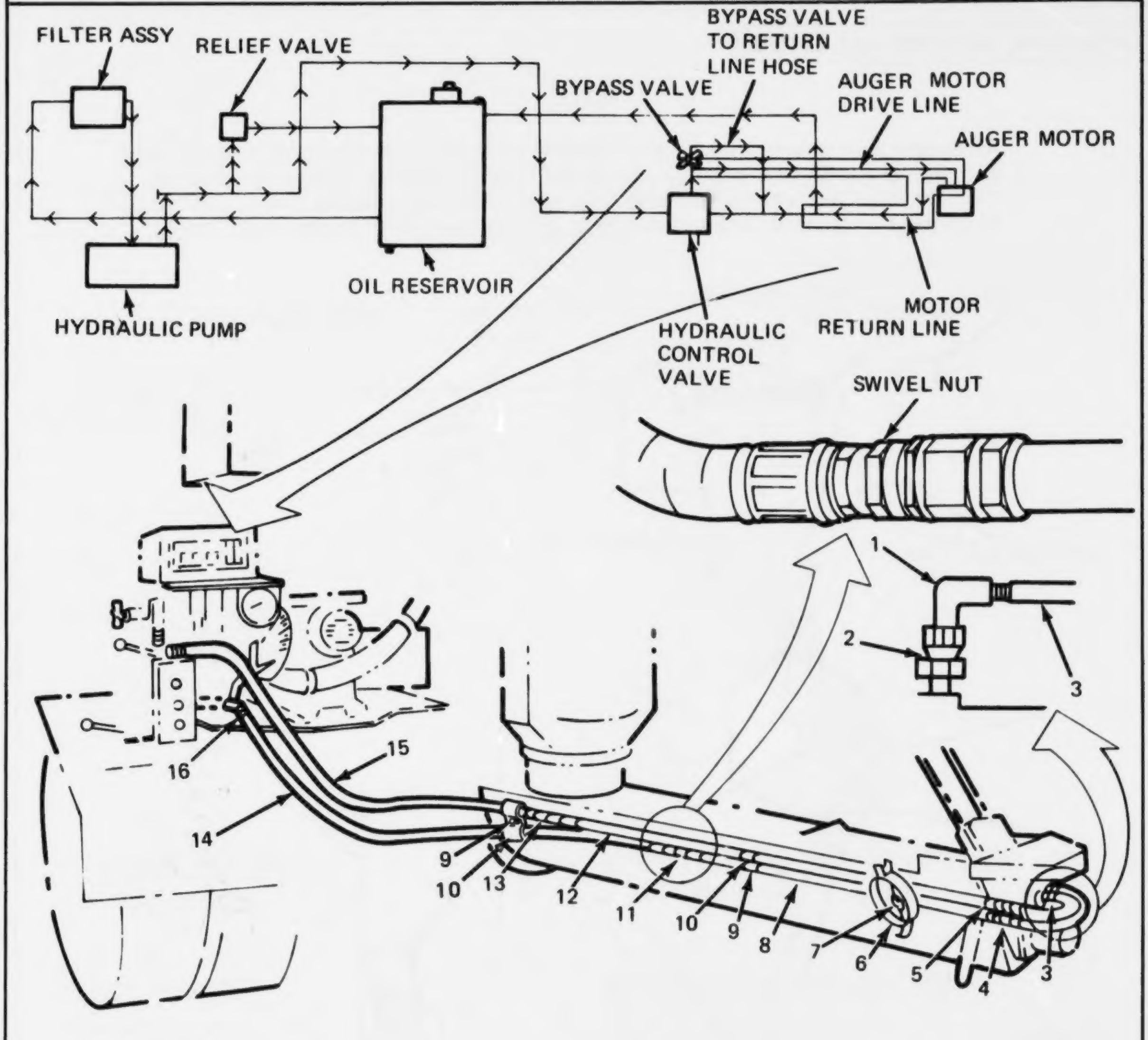
1. RELIEF VALVE
2. ADAPTER
3. RETURN LINE
4. STREET ELBOW
5. OIL RESERVOIR
6. SWIVEL NUT
7. 90° ELBOW

TA 076398

HYDRAULIC SYSTEM.

10-13. LINES AND FITTINGS MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS


FILTER ASSY
RELIEF VALVE
BYPASS VALVE TO RETURN LINE HOSE
BYPASS VALVE
AUGER MOTOR DRIVE LINE
AUGER MOTOR
OIL RESERVOIR
HYDRAULIC PUMP
MOTOR RETURN LINE
HYDRAULIC CONTROL VALVE
SWIVEL NUT
1
2
3
15
16
14
9
10
13
12
11
10
9
8
7
6
5
4
3

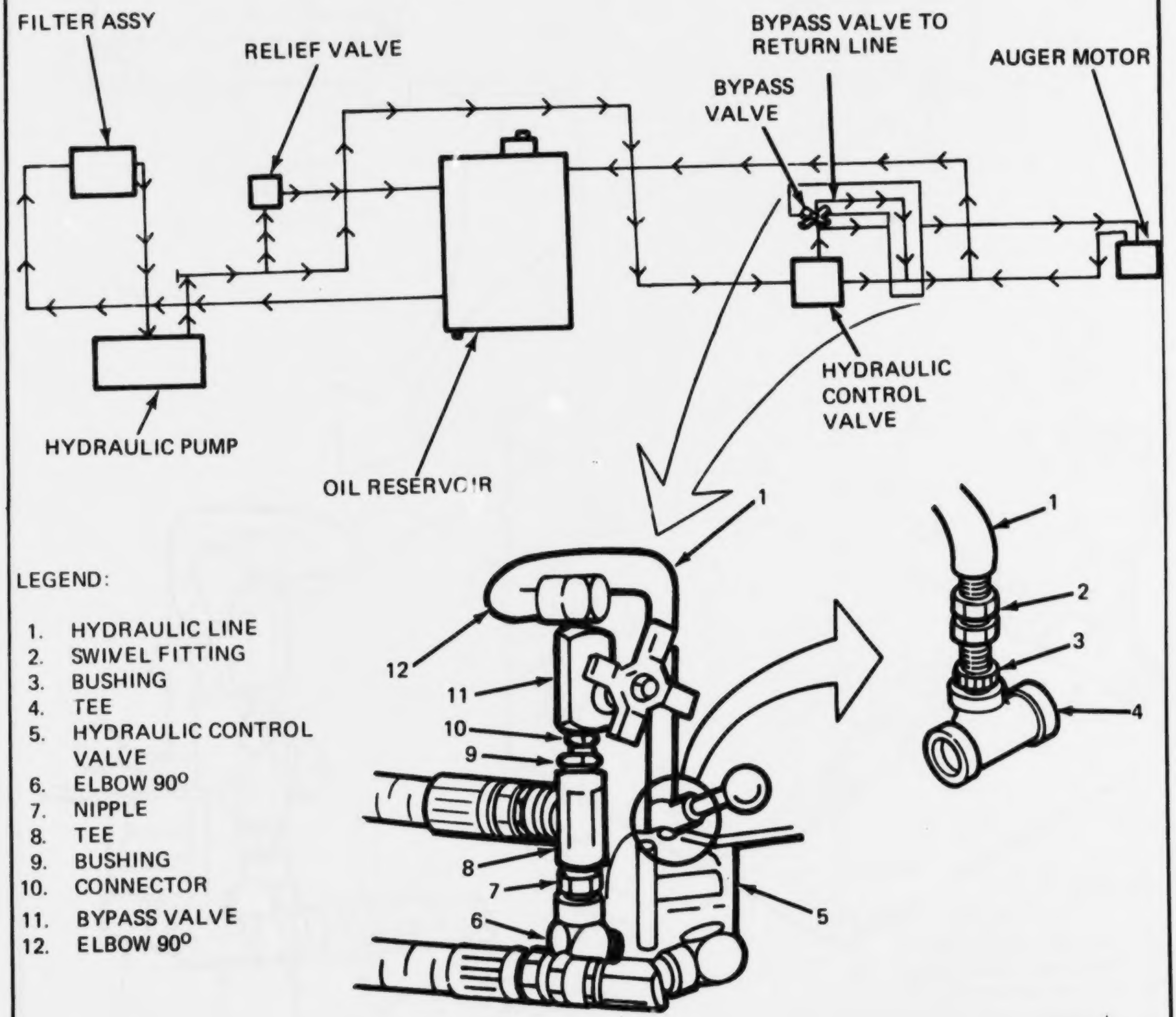
LEGEND:

1. ELBOW (2)
2. SWIVEL FITTING (2)
3. HOSE (2)
4. SWIVEL NUT
5. SWIVEL NUT
6. WASHOFF HOSE BRACKET
7. NUT AND LOCKWASHER
8. AUGER MOTOR RETURN LINE
9. NUT AND LOCKWASHER (2)
10. PIPE CLAMP (2)
11. SWIVEL NUT
12. AUGER MOTOR DRIVE LINE
13. SWIVEL NUT
14. HOSE FITTING (RETURN LINE)
15. HOSE FITTING (FEED LINE)
16. HOSE FITTING (RETURN LINE)

TA 076399

10-13. LINES AND FITTINGS MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS


FILTER ASSY
RELIEF VALVE
BYPASS VALVE TO RETURN LINE
BYPASS VALVE
AUGER MOTOR
HYDRAULIC CONTROL VALVE
HYDRAULIC PUMP
OIL RESERVOIR
1
2
3
4
5
6
7
8
9
10
11
12

LEGEND:

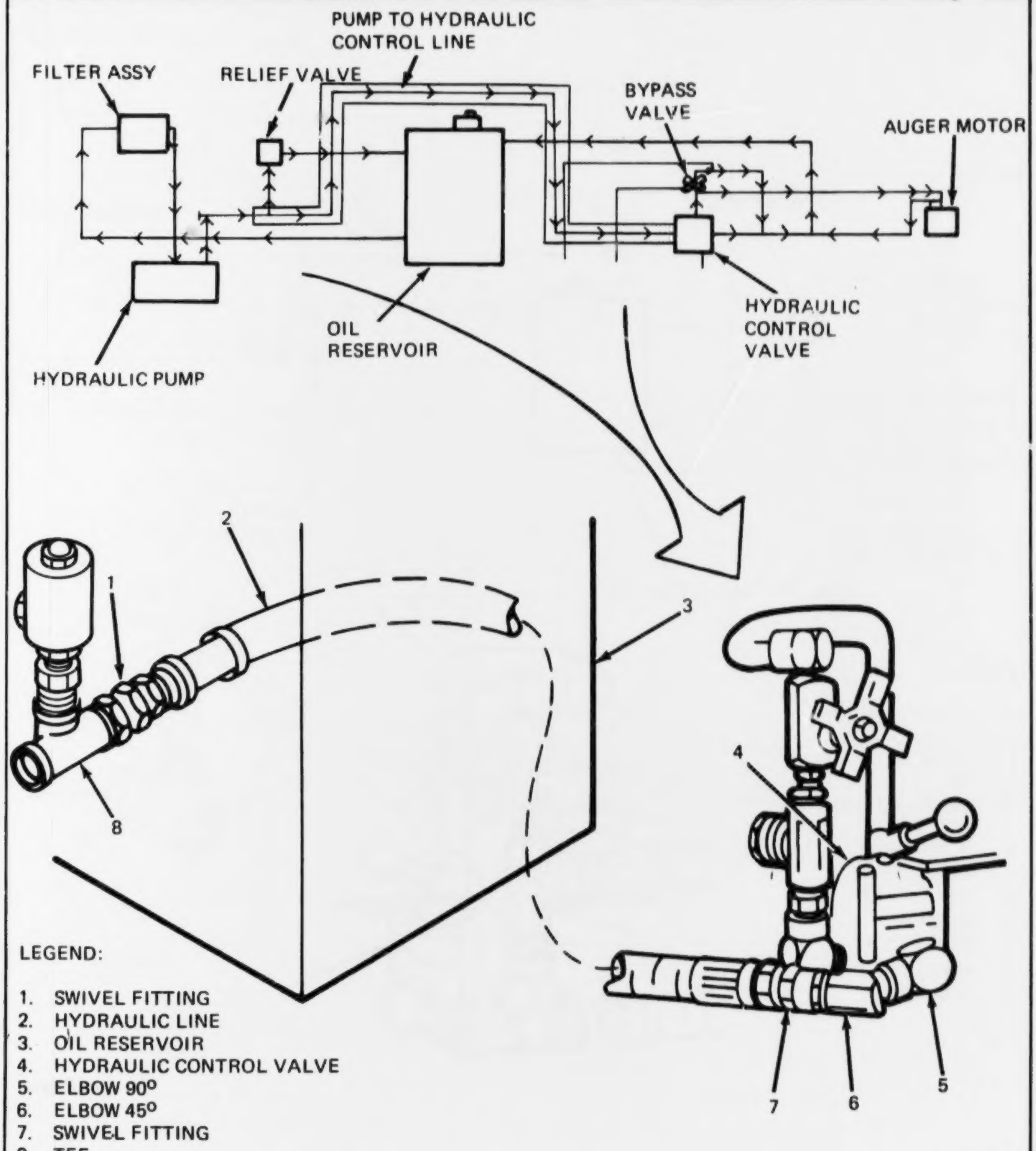
1. HYDRAULIC LINE
2. SWIVEL FITTING
3. BUSHING
4. TEE
5. HYDRAULIC CONTROL VALVE
6. ELBOW 90°
7. NIPPLE
8. TEE
9. BUSHING
10. CONNECTOR
11. BYPASS VALVE
12. ELBOW 90°

TA 076400

HYDRAULIC SYSTEM.

10-13. LINES AND FITTINGS MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS


PUMP TO HYDRAULIC CONTROL LINE
FILTER ASSY
RELIEF VALVE
BYPASS VALVE
AUGER MOTOR
OIL RESERVOIR
HYDRAULIC CONTROL VALVE
HYDRAULIC PUMP
1
2
3
4
5
6
7
8

LEGEND:

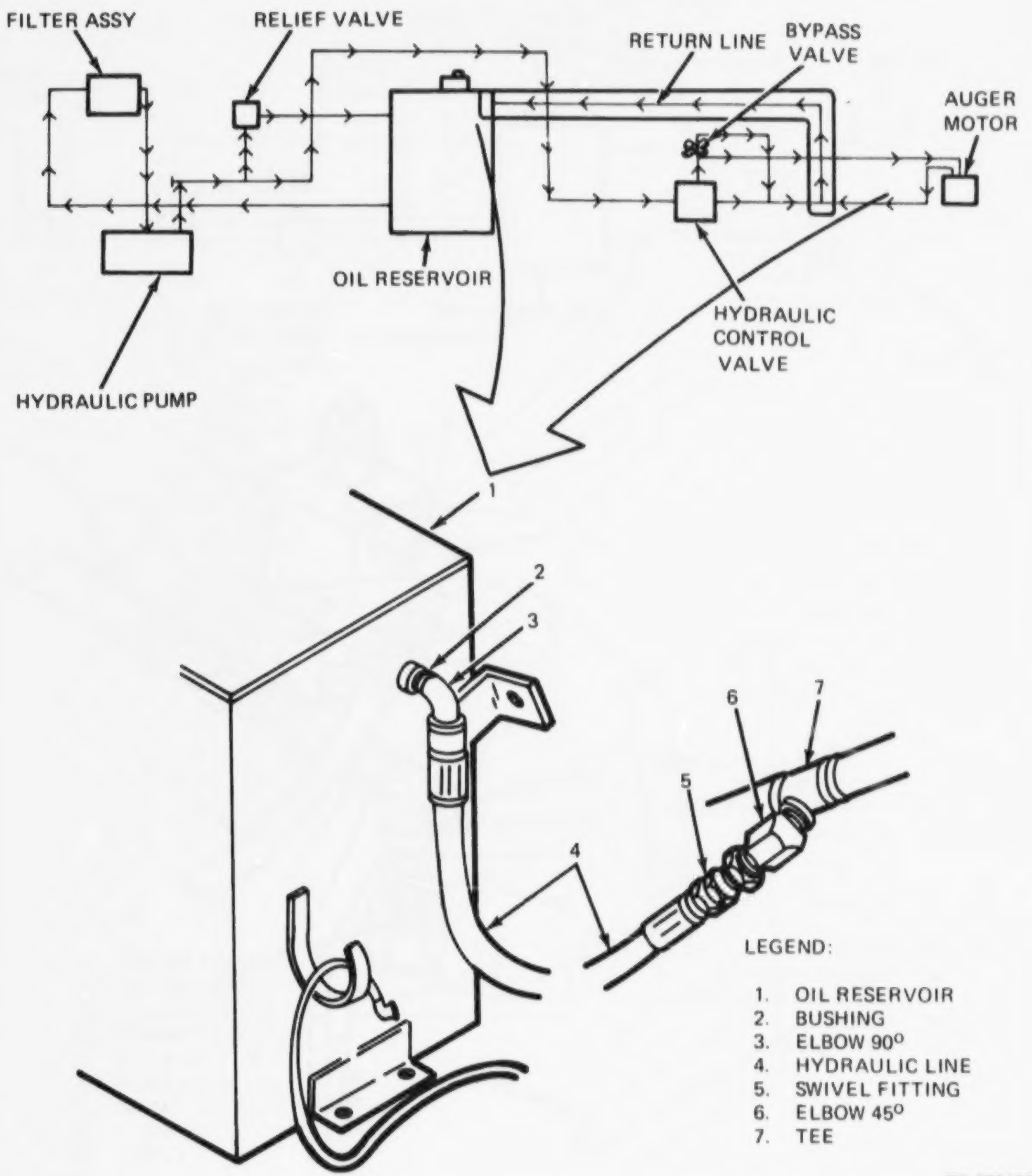
1. SWIVEL FITTING
2. HYDRAULIC LINE
3. OIL RESERVOIR
4. HYDRAULIC CONTROL VALVE
5. ELBOW 90°
6. ELBOW 45°
7. SWIVEL FITTING
8. TEE

TA 076401

HYDRAULIC SYSTEM.

10-13. LINES AND FITTINGS MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS

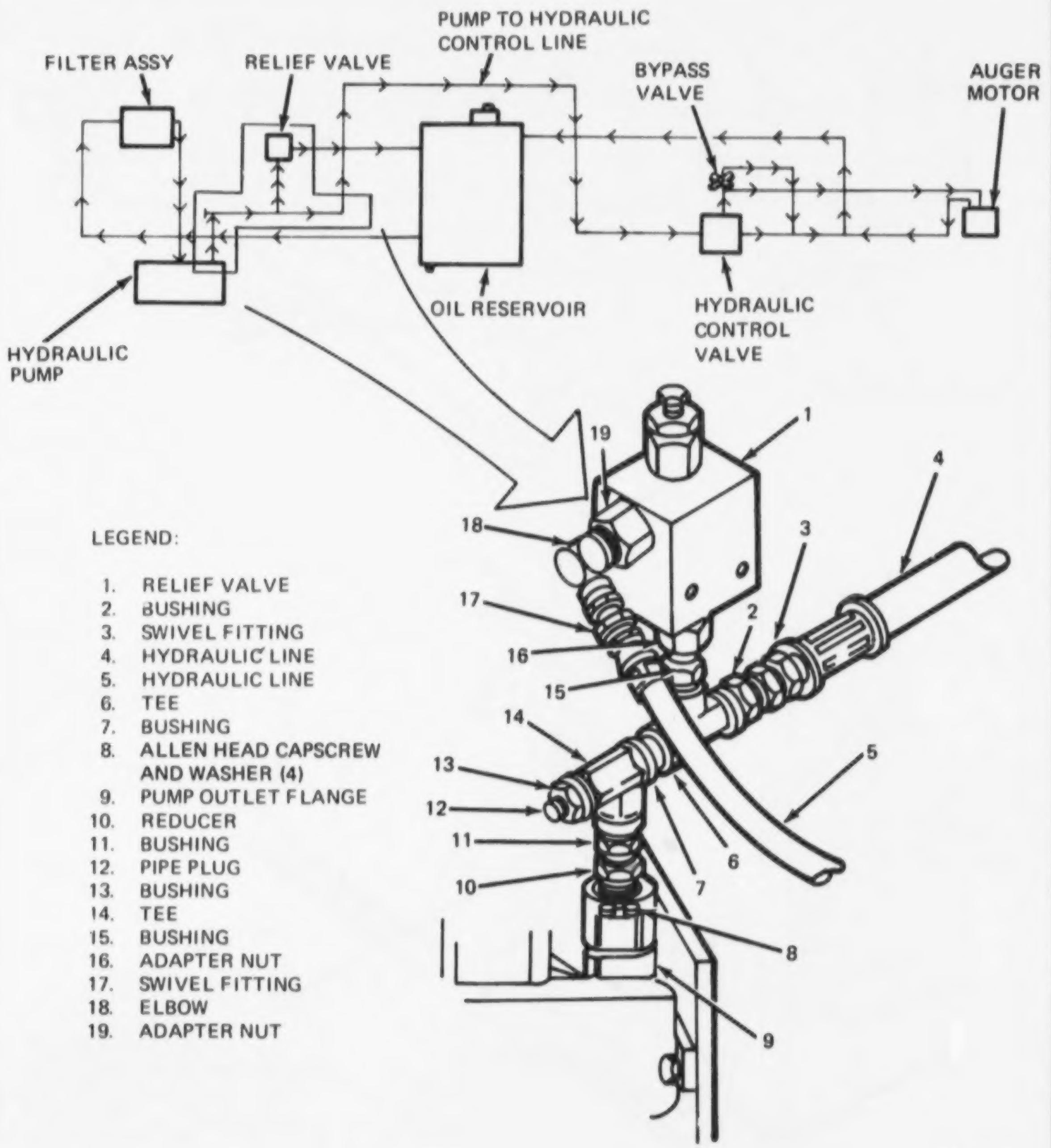

FILTER ASSY
RELIEF VALVE
RETURN LINE
BYPASS VALVE
AUGER MOTOR
OIL RESERVOIR
HYDRAULIC CONTROL VALVE
HYDRAULIC PUMP
1
2
3
4
5
6
7
LEGEND:
1. OIL RESERVOIR
2. BUSHING
3. ELBOW 90°
4. HYDRAULIC LINE
5. SWIVEL FITTING
6. ELBOW 45°
7. TEE

TA 076402

HYDRAULIC SYSTEM.

10-13. LINES AND FITTINGS MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS


PUMP TO HYDRAULIC CONTROL LINE
FILTER ASSY
RELIEF VALVE
BYPASS VALVE
AUGER MOTOR
OIL RESERVOIR
HYDRAULIC CONTROL VALVE
HYDRAULIC PUMP
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19

LEGEND:

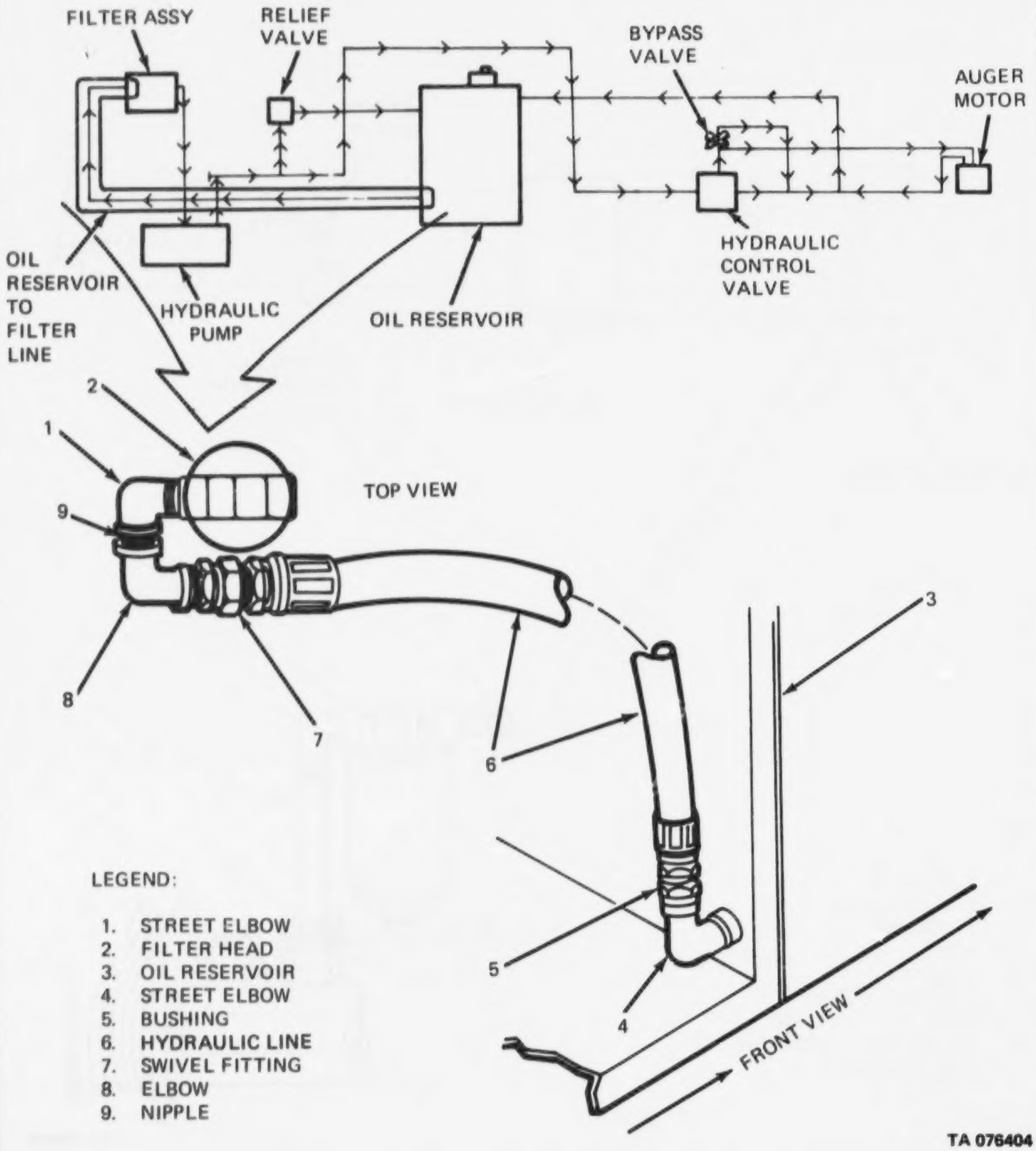
1. RELIEF VALVE
2. BUSHING
3. SWIVEL FITTING
4. HYDRAULIC LINE
5. HYDRAULIC LINE
6. TEE
7. BUSHING
8. ALLEN HEAD CAPSCREW AND WASHER (4)
9. PUMP OUTLET FLANGE
10. REDUCER
11. BUSHING
12. PIPE PLUG
13. BUSHING
14. TEE
15. BUSHING
16. ADAPTER NUT
17. SWIVEL FITTING
18. ELBOW
19. ADAPTER NUT

TA 076403

HYDRAULIC SYSTEM.

10-13. LINES AND FITTINGS MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS


FILTER ASSY
RELIEF VALVE
BYPASS VALVE
AUGER MOTOR
OIL RESERVOIR TO FILTER LINE
HYDRAULIC PUMP
OIL RESERVOIR
HYDRAULIC CONTROL VALVE
1
2
TOP VIEW
9
3
8
7
6
5
4
FRONT VIEW

LEGEND:

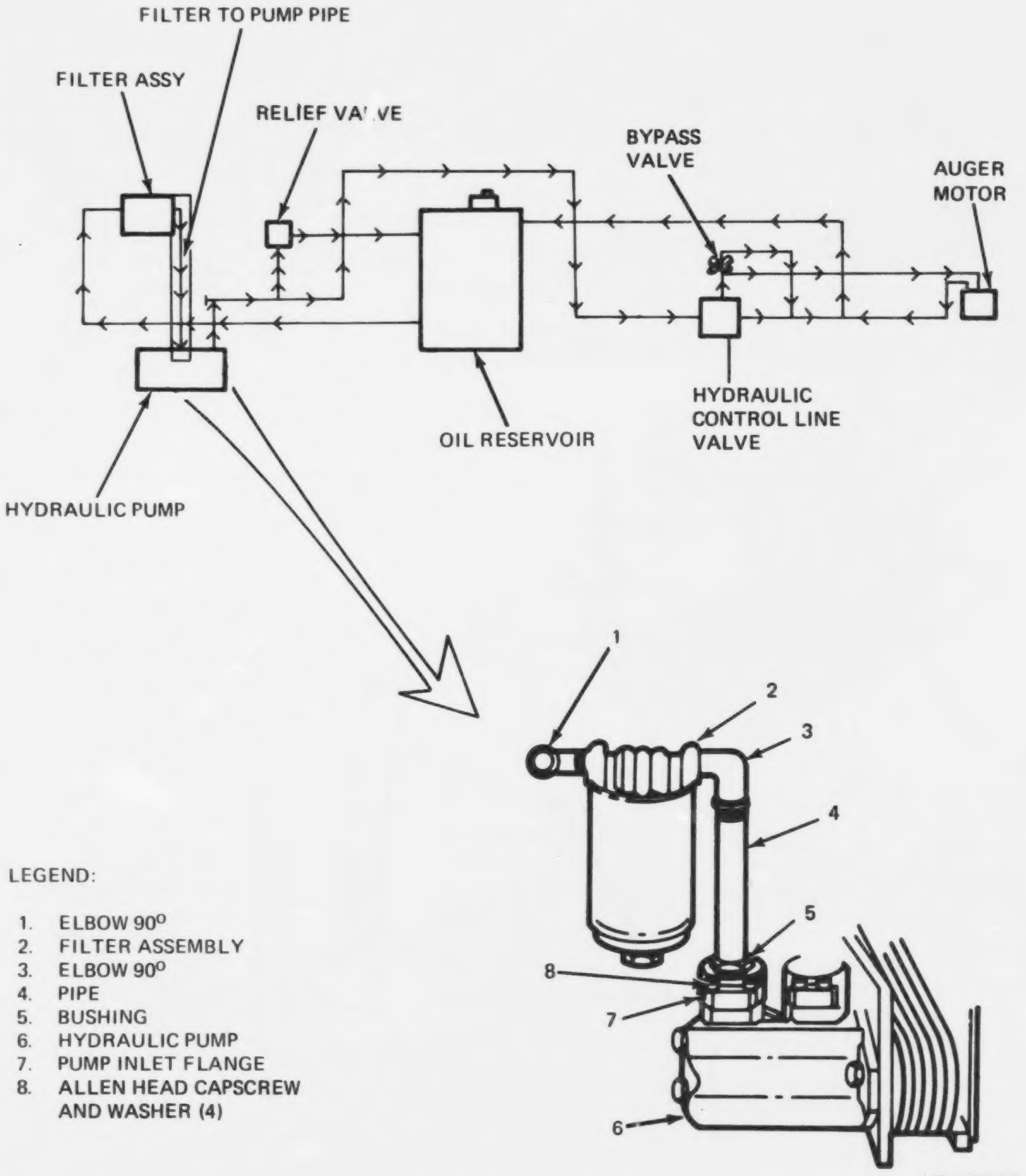
1. STREET ELBOW
2. FILTER HEAD
3. OIL RESERVOIR
4. STREET ELBOW
5. BUSHING
6. HYDRAULIC LINE
7. SWIVEL FITTING
8. ELBOW
9. NIPPLE

TA 076404

HYDRAULIC SYSTEM.

10-13. LINES AND FITTINGS MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS


FILTER TO PUMP PIPE
FILTER ASSY
RELIEF VALVE
BYPASS VALVE
AUGER MOTOR
HYDRAULIC CONTROL LINE VALVE
OIL RESERVOIR
HYDRAULIC PUMP
1
2
3
4
5
8
7
6

LEGEND:

1. ELBOW 90°
2. FILTER ASSEMBLY
3. ELBOW 90°
4. PIPE
5. BUSHING
6. HYDRAULIC PUMP
7. PUMP INLET FLANGE
8. ALLEN HEAD CAPSCREW AND WASHER (4)

TA 076405

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HYDRAULIC SYSTEM.

10-14. OIL RESERVOIR MAINTENANCE.

THIS TASK COVERS: (APPROXIMATE TIME REQUIRED FOLLOWS TASK DESCRIPTION.)

a. Removal.	(15)
b. Repair.	(20)
c. Installation.	(20)
d. Operational Check.	(10)
	65 Minutes Total.

INITIAL SETUP

EQUIPMENT CONDITION PARAGRAPH	CONDITION DESCRIPTION
None.	None.

APPLICABLE CONFIGURATIONS

M919.

TEST EQUIPMENT

None.

SPECIAL TOOLS

None.

MATERIALS/PARTS (P/N)

Drain Pan.
Oil (Refer to Appendix C).
Liquid Teflon (Refer to Appendix C).

PERSONNEL REQUIRED

One (MOS-62B20).

REFERENCES (TM)

LO 5-3895-372-12.
TM 5-3895-372-10.
TM 5-3895-372-20P.
TM 9-2320-273-10.

TROUBLESHOOTING REFERENCES

Table 10-1.

SPECIAL ENVIRONMENTAL CONDITIONS

Vehicle Parked on Level Ground.

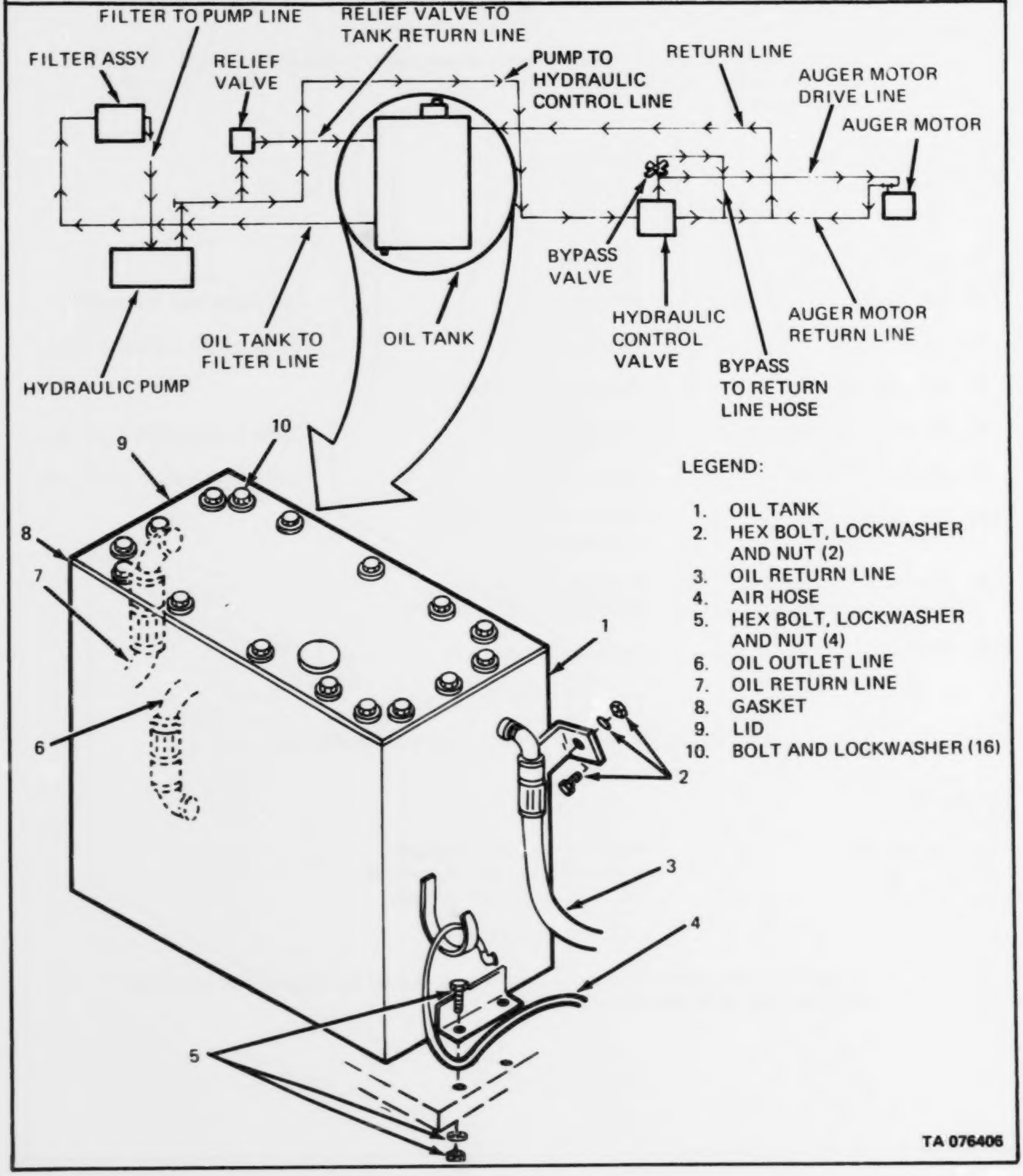
GENERAL SAFETY INSTRUCTIONS

Engine Off.
Transmission in Neutral.
Parking Brake Set.
Hydraulic Oil May Be Hot Enough to Burn Skin.

HYDRAULIC SYSTEM.

10-14. OIL RESERVOIR MAINTENANCE (Continued).

LOCATION/ITEM **ACTION** **REMARKS**


FILTER TO PUMP LINE
RELIEF VALVE TO TANK RETURN LINE
FILTER ASSY
RELIEF VALVE
PUMP TO HYDRAULIC CONTROL LINE
RETURN LINE
AUGER MOTOR DRIVE LINE
AUGER MOTOR
BYPASS VALVE
HYDRAULIC CONTROL VALVE
AUGER MOTOR RETURN LINE
BYPASS TO RETURN LINE HOSE
OIL TANK TO FILTER LINE
OIL TANK
HYDRAULIC PUMP
9
10
8
7
6
1
2
3
4
5
TA 076406

LEGEND:

1. OIL TANK
2. HEX BOLT, LOCKWASHER AND NUT (2)
3. OIL RETURN LINE
4. AIR HOSE
5. HEX BOLT, LOCKWASHER AND NUT (4)
6. OIL OUTLET LINE
7. OIL RETURN LINE
8. GASKET
9. LID
10. BOLT AND LOCKWASHER (16)

10-14. OIL RESERVOIR MAINTENANCE (Continued).

NOTE

Before beginning service, raise and prop access panel. If gasket (8) is to be replaced, complete steps 1, 2, and 3 only. Proceed with steps 4 thru 10 if the oil reservoir is to be removed.

A. REMOVAL.

LOCATION/ITEM	ACTION	REMARKS
1. Sixteen bolts and washers (10).	Remove.	
2. Lid (9).	Remove.	
3. Gasket (8).	Remove.	Use sharp tool if necessary.
4. Oil tank (1).	Drain oil.	Refer to LO 5-3895-372-12.
5. Air hose (4).	Remove from bracket.	
6. Oil return line (3) and (7).	Remove.	Drain excess oil in drain pan.
7. Oil outlet line (6).	Remove.	Drain excess oil in drain pan.
8. Hex bolts and lockwashers (2).	Remove two bolts and lockwashers.	
9. Hex bolts, lockwashers, and hex nuts (5).	Remove four hex bolts, lockwashers and hex nuts.	
10. Oil tank (1).	Remove from vehicle.	

NOTE

Use liquid teflon on all threaded joints at installation.

B. REPAIR.

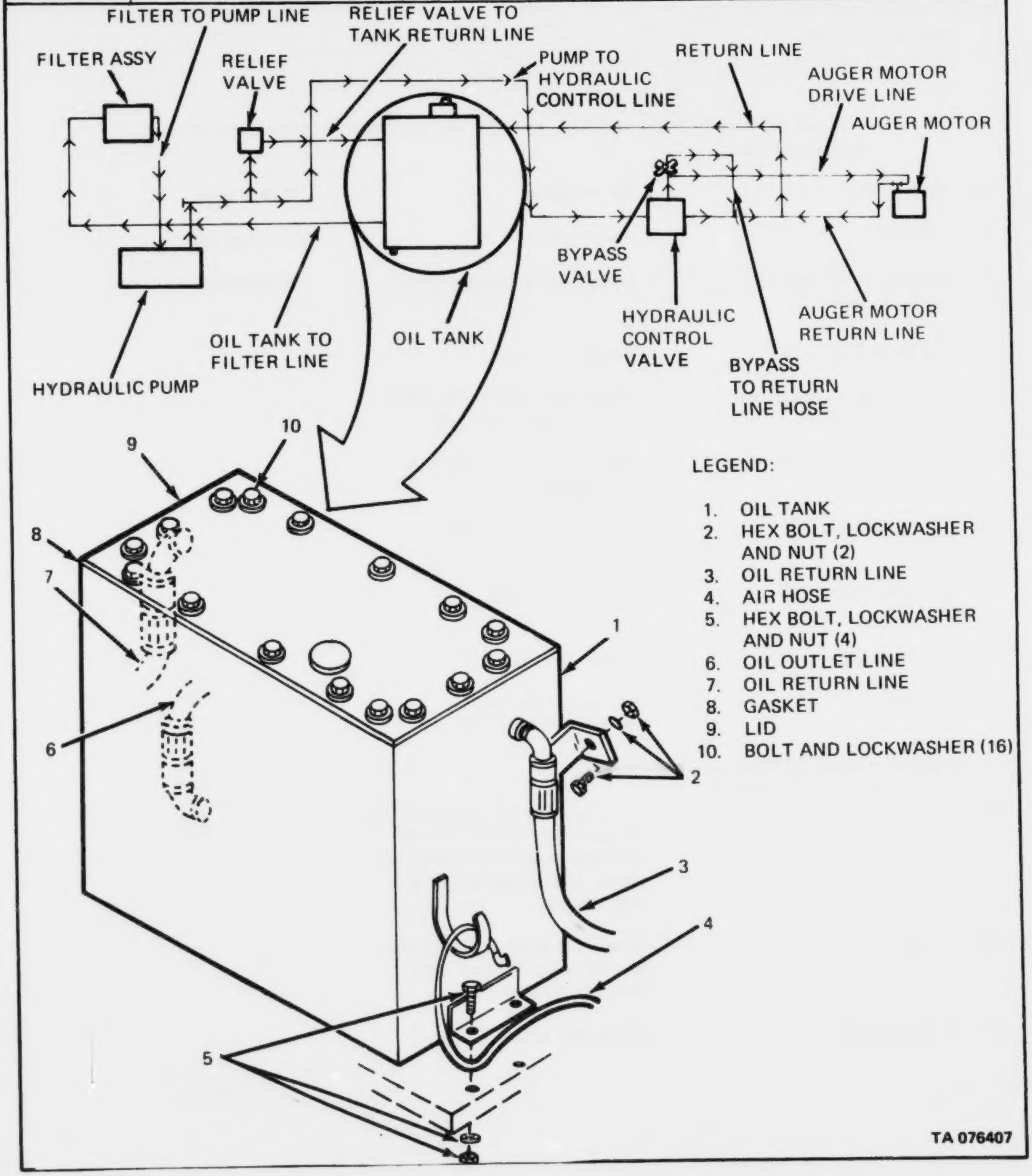
LOCATION/ITEM	ACTION	REMARKS
11. Oil tank (1).	Weld cracks using standard shop practices and techniques for welding galvanized steel.	

NOTE

In extreme cases with abnormally large cracks, it may be necessary to patch the damaged area with galvanized steel stock.

10-14. OIL RESERVOIR MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS


FILTER TO PUMP LINE
RELIEF VALVE TO TANK RETURN LINE
FILTER ASSY
RELIEF VALVE
PUMP TO HYDRAULIC CONTROL LINE
RETURN LINE
AUGER MOTOR DRIVE LINE
AUGER MOTOR
BYPASS VALVE
HYDRAULIC CONTROL VALVE
BYPASS TO RETURN LINE HOSE
AUGER MOTOR RETURN LINE
OIL TANK
OIL TANK TO FILTER LINE
HYDRAULIC PUMP
1
2
3
4
5
6
7
8
9
10
TA 076407

LEGEND:

1. OIL TANK
2. HEX BOLT, LOCKWASHER AND NUT (2)
3. OIL RETURN LINE
4. AIR HOSE
5. HEX BOLT, LOCKWASHER AND NUT (4)
6. OIL OUTLET LINE
7. OIL RETURN LINE
8. GASKET
9. LID
10. BOLT AND LOCKWASHER (16)

HYDRAULIC SYSTEM.

10-14. OIL RESERVOIR MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS
C. INSTALLATION.		

NOTE

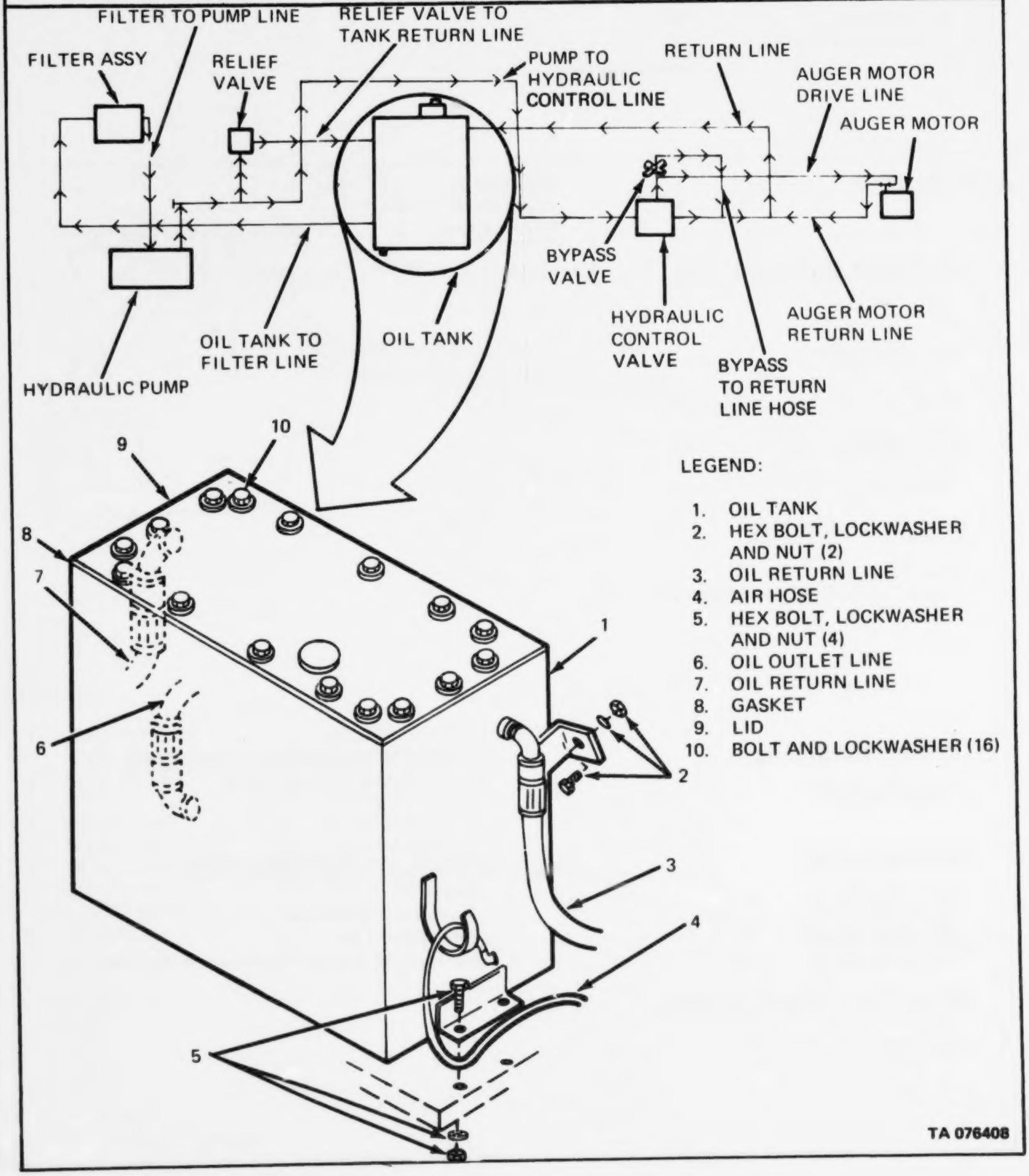
If a new oil tank is being installed, transfer the fittings from the damaged tank to the new tank.

LOCATION/ITEM	ACTION	REMARKS
12. Gasket (8).	Set in place.	If removed.
13. Lid (9).	Set in place.	If removed.
14. Sixteen bolts and lockwashers (10).	Install and tighten securely.	If removed.
15. Oil tank (1).	Install in vehicle.	
16. Hex bolts, lockwashers, and hex nuts (5).	Install four hex bolts, lockwashers, and hex nuts.	
17. Hex bolts and lockwashers (2).	Install two hex bolts and lockwashers (2).	
18. Oil outlet line (6).	Install outlet line (6) in oil tank.	
19. Oil return lines (3) and (7).	Install in oil tank.	
20. Air hose (4).	Install on bracket.	
21. Oil tank (1).	Fill tank with oil (see LO 5-3895-372-12).	
D. OPERATIONAL CHECK.		
22. Mixer body.	Start up (see TM 9-2320-273-10 and TM 5-3895-372-10). Activate auger and check for leaks. Shut down auger and stop engine.	
23. Oil tank (1).	Check oil level with dipstick in hydraulic oil tank cap. Add oil if needed.	
24. Access panel.	Close and latch.	

HYDRAULIC SYSTEM.

10-14. OIL RESERVOIR MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS


FILTER TO PUMP LINE
RELIEF VALVE TO TANK RETURN LINE
FILTER ASSY
RELIEF VALVE
PUMP TO HYDRAULIC CONTROL LINE
RETURN LINE
AUGER MOTOR DRIVE LINE
AUGER MOTOR
BYPASS VALVE
OIL TANK TO FILTER LINE
OIL TANK
HYDRAULIC CONTROL VALVE
AUGER MOTOR RETURN LINE
BYPASS TO RETURN LINE HOSE
HYDRAULIC PUMP
10
9
8
7
6
1
2
3
4
5
TA 076408

LEGEND:

1. OIL TANK
2. HEX BOLT, LOCKWASHER AND NUT (2)
3. OIL RETURN LINE
4. AIR HOSE
5. HEX BOLT, LOCKWASHER AND NUT (4)
6. OIL OUTLET LINE
7. OIL RETURN LINE
8. GASKET
9. LID
10. BOLT AND LOCKWASHER (16)

HYDRAULIC SYSTEM.

10-15. CONTROL VALVE MAINTENANCE.

THIS TASK COVERS: (APPROXIMATE TIME REQUIRED FOLLOWS TASK DESCRIPTION.)

a. Removal.	(20)
b. Installation.	(20)
c. Operational Check.	(10)
	50 Minutes Total.

INITIAL SETUP

APPLICABLE CONFIGURATIONS

M919.

TEST EQUIPMENT

None.

SPECIAL TOOLS

None.

MATERIALS/PARTS (P/N)

Drain Pan.
Liquid Teflon (Refer to Appendix C).

EQUIPMENT CONDITION PARAGRAPH	CONDITION DESCRIPTION
None.	None.

PERSONNEL REQUIRED

One (MOS-62B20).

REFERENCES (TM)

LO 5-3895-372-12.
TM 5-3895-372-10.
TM 5-3895-372-20P.
TM 9-2320-273-10.

TROUBLESHOOTING REFERENCES

Table 10-1.

SPECIAL ENVIRONMENTAL CONDITIONS

Vehicle Parked on Level Ground.

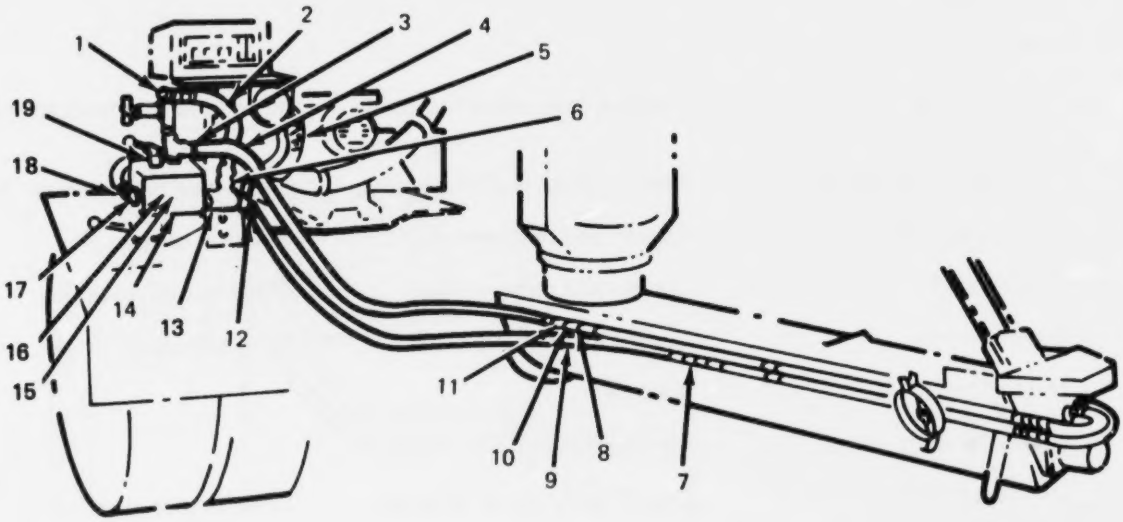
GENERAL SAFETY INSTRUCTIONS

Engine Off.
Transmission in Neutral.
Parking Brake Set.
Hydraulic Oil May Be Hot Enough to Burn Skin.

HYDRAULIC SYSTEM.

10-15. CONTROL VALVE MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS



LEGEND:

1. HOSE FITTING
2. HOSE
3. HOSE FITTING
4. HOSE
5. SWIVEL NUT
6. SWIVEL NUT
7. SWIVEL NUT
8. SWIVEL NUT
9. LOCKWASHER (2)
10. NUT (2)
11. MOUNTING CLAMP (2)
12. HOSE FITTING
13. ADAPTER
14. CONTROL VALVE
15. CAPSCREW (2)
16. LOCKWASHER (2)
17. ELBOW
18. SWIVEL NUT
19. ELBOW

TA 076409

HYDRAULIC SYSTEM.

10-15. CONTROL VALVE MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS

NOTE

Before beginning service lower auger to horizontal position and have access to drain pan.

A. REMOVAL.

LOCATION/ITEM	ACTION	REMARKS
1. Two nuts (10) and lockwashers (9).	Remove from mounting studs.	Front and intermediate clamps.
2. Two mounting clamps (11).	Remove from mounting studs.	Front and intermediate clamps.
3. Swivel nut (18).	Loosen and remove hose.	Cap end of hose.
4. Swivel nut (7).	Loosen and remove hose.	Drain excess oil in pan.
5. Swivel nut (8).	Loosen and remove hose.	Drain excess oil in pan.
6. Hose fitting (12).	Remove.	
7. Hose fitting (3).	Remove hose (4).	
8. Swivel nut (6).	Loosen and remove hose (2).	Drain excess oil in pan.
9. Two capscrews (15) and lockwashers (16).	Remove.	
10. Hydraulic control valve (14).	Remove from vehicle and place in a vise.	
11. Swivel nut (5).	Loosen.	
12. Hose fitting (1).	Loosen and remove hose (2).	
13. Elbow (17).	Remove from valve (14).	
14. Elbow (19).	Remove from valve (14).	
15. Adapter (13).	Remove from valve (14).	

B. INSTALLATION.

NOTE

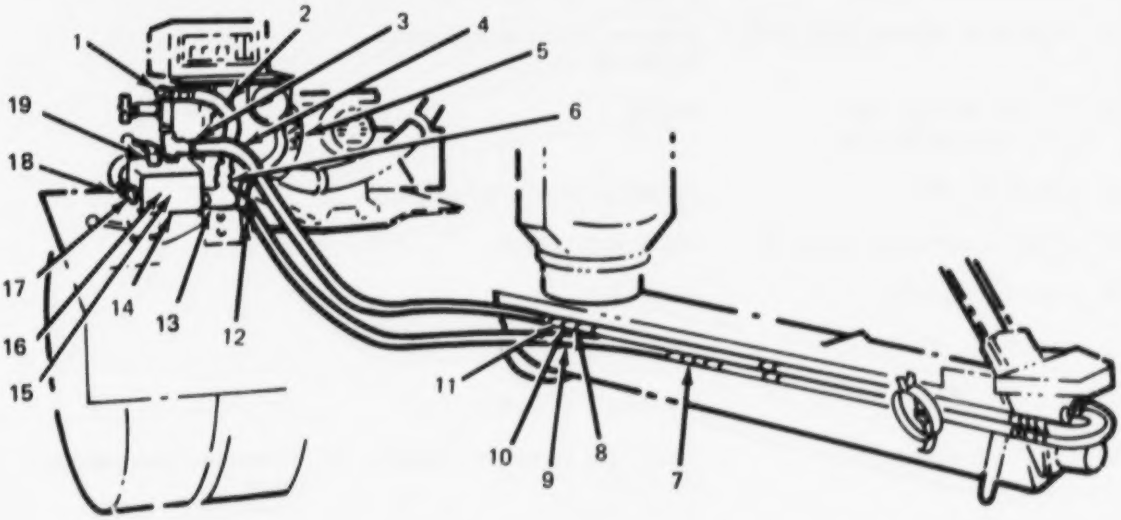
Apply liquid teflon on all threaded joints at installation.

LOCATION/ITEM	ACTION	REMARKS
16. Adapter (13).	Install in valve (14).	
17. Elbow (19).	Install in valve (14).	

HYDRAULIC SYSTEM.

10-15. CONTROL VALVE MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS



LEGEND:

1. HOSE FITTING
2. HOSE
3. HOSE FITTING
4. HOSE
5. SWIVEL NUT
6. SWIVEL NUT
7. SWIVEL NUT
8. SWIVEL NUT
9. LOCKWASHER (2)
10. NUT (2)
11. MOUNTING CLAMP (2)
12. HOSE FITTING
13. ADAPTER
14. CONTROL VALVE
15. CAPSCREW (2)
16. LOCKWASHER (2)
17. ELBOW
18. SWIVEL NUT
19. ELBOW

TA 076410

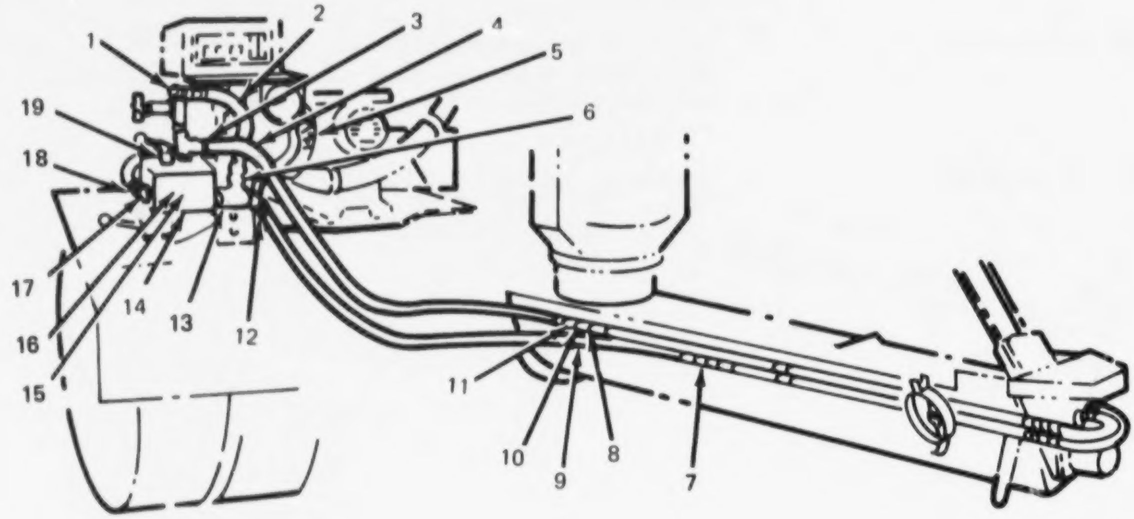
HYDRAULIC SYSTEM.

10-15. CONTROL VALVE MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS
B. INSTALLATION (Continued)		
18. Elbow (17).	Install in valve (14).	
19. Hose fitting (1).	Install hose (2) and fitting (1).	
20. Swivel nut (5).	Install on nipple and tighten.	
21. Hydraulic control valve (14).	Remove from vise and install in vehicle.	
22. Two capscrews (15) and lockwashers (16).	Install.	
23. Swivel nut (6).	Install on nipple and tighten.	
24. Hose (4) and hose fitting (3).	Install and tighten.	
25. Hose fitting (12).	Install and tighten.	
26. Swivel nut (8).	Install and tighten.	
27. Swivel nut (7).	Install and tighten.	
28. Mounting clamps (11).	Install two clamps on mounting studs.	Front and intermediate studs.
29. Nut (10) and lockwasher (9).	Install and tighten.	Front and intermediate studs.
30. Swivel nut (18).	Install on nipple and tighten.	
31. Oil reservoir.	Fill reservoir with oil (see LO 5-3895-372-12).	

10-15. CONTROL VALVE MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS



LEGEND:

1. HOSE FITTING
2. HOSE
3. HOSE FITTING
4. HOSE
5. SWIVEL NUT
6. SWIVEL NUT
7. SWIVEL NUT
8. SWIVEL NUT
9. LOCKWASHER (2)
10. NUT (2)
11. MOUNTING CLAMP (2)
12. HOSE FITTING
13. ADAPTER
14. CONTROL VALVE
15. CAPSCREW (2)
16. LOCKWASHER (2)
17. ELBOW
18. SWIVEL NUT
19. ELBOW

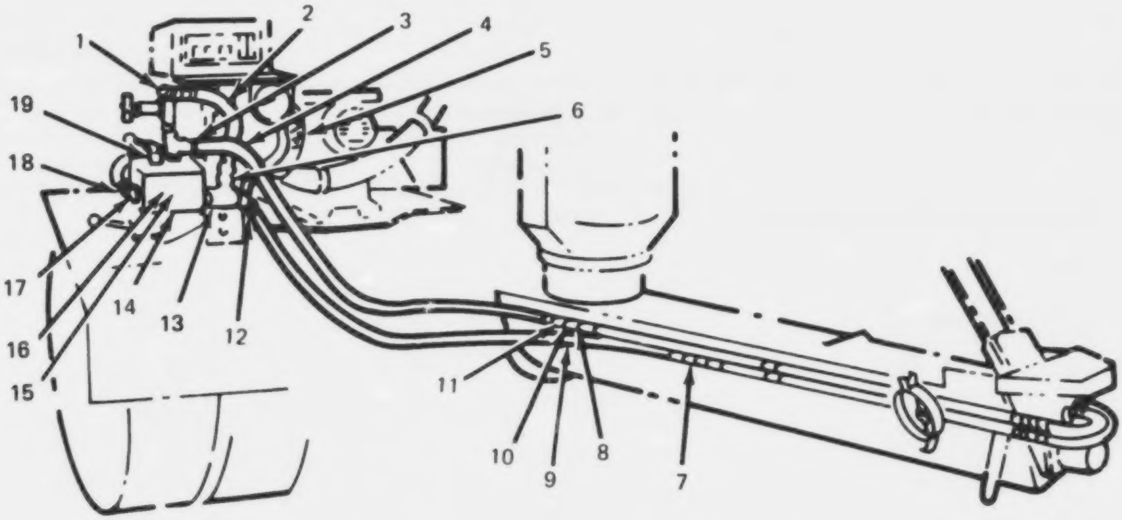
TA 076411

10-15. CONTROL VALVE MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS
C. OPERATIONAL CHECK.		
32. Mixer body.	Start up (see TM 9-2320-273-10 and TM 5-3895-372-10). Activate auger by hydraulic control valve and check for leaks. Shut down auger and stop engine.	
33. Oil reservoir.	Check oil level with dipstick in hydraulic oil tank cap. Add oil if needed. Refer to LO 5-3895-372-12.	
34. Mixer body.	Shut down (see TM 9-2320-273-10 and TM 5-3895-372-10).	

10-15. CONTROL VALVE MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS



LEGEND:

1. HOSE FITTING
2. HOSE
3. HOSE FITTING
4. HOSE
5. SWIVEL NUT
6. SWIVEL NUT
7. SWIVEL NUT
8. SWIVEL NUT
9. LOCKWASHER (2)
10. NUT (2)
11. MOUNTING CLAMP (2)
12. HOSE FITTING
13. ADAPTER
14. CONTROL VALVE
15. CAPSCREW (2)
16. LOCKWASHER (2)
17. ELBOW
18. SWIVEL NUT
19. ELBOW

TA 076412

HYDRAULIC SYSTEM.

10-16. HYDRAULIC MOTOR MAINTENANCE.

THIS TASK COVERS: (APPROXIMATE TIME REQUIRED FOLLOWS TASK DESCRIPTION.)

a. Removal.	(20)
b. Installation.	(20)
c. Operational Check.	(5)
	45 Minutes Total.

INITIAL SETUP

EQUIPMENT CONDITION PARAGRAPH	CONDITION DESCRIPTION
None.	None.

APPLICABLE CONFIGURATIONS

M919.

TEST EQUIPMENT

None.

SPECIAL TOOLS

None.

MATERIALS/PARTS (P/N)

Drain Pan.
Liquid Teflon (Refer to Appendix C).
Plugs.

PERSONNEL REQUIRED

One (MOS-62B20).

REFERENCES (TM)

TM 5-3895-372-10.
TM 5-3895-372-20P.
TM 9-2320-273-10.

TROUBLESHOOTING REFERENCES

Table 10-1.

SPECIAL ENVIRONMENTAL CONDITIONS

Vehicle Parked on Level Ground.

GENERAL SAFETY INSTRUCTIONS

Engine Off.
Transmission in Neutral.
Parking Brake Set.
Hydraulic Oil May Be Hot Enough to Burn Skin.

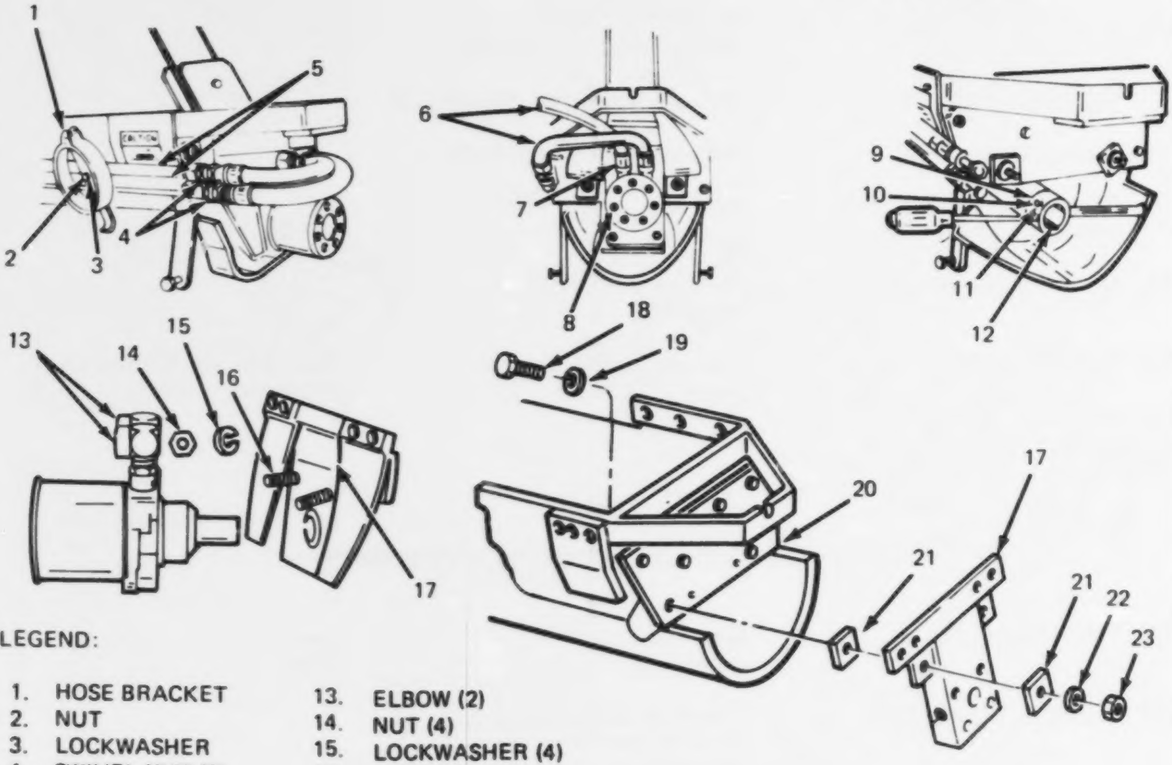
10-16. HYDRAULIC MOTOR MAINTENANCE (Continued).

NOTE

Before beginning service, lower auger until motor can be reached easily.

A. REMOVAL.

LOCATION/ITEM	ACTION	REMARKS
1. Nut (2) and lock-washer (3).	Unscrew and remove hose bracket (1).	
2. Two swivel nuts (4).	Unscrew from two pipes (5).	Catch excess oil in drain pan and plug pipes (5).



LEGEND:

1. HOSE BRACKET
2. NUT
3. LOCKWASHER
4. SWIVEL NUT (2)
5. PIPE (2)
6. HOSE (2)
7. HOSE FITTING (2)
8. HYDRAULIC MOTOR
9. SHAFT COUPLING
10. NUT (2)
11. BOLT (2)
12. WOODRUFF KEY
13. ELBOW (2)
14. NUT (4)
15. LOCKWASHER (4)
16. BOLT (4)
17. MOUNTING BRACKET
18. BOLT (2)
19. FLAT WASHER (2)
20. END PLATE
21. RUBBER SPACER (4)
22. FLAT WASHER (2)
23. NUT (2)

TA 076413

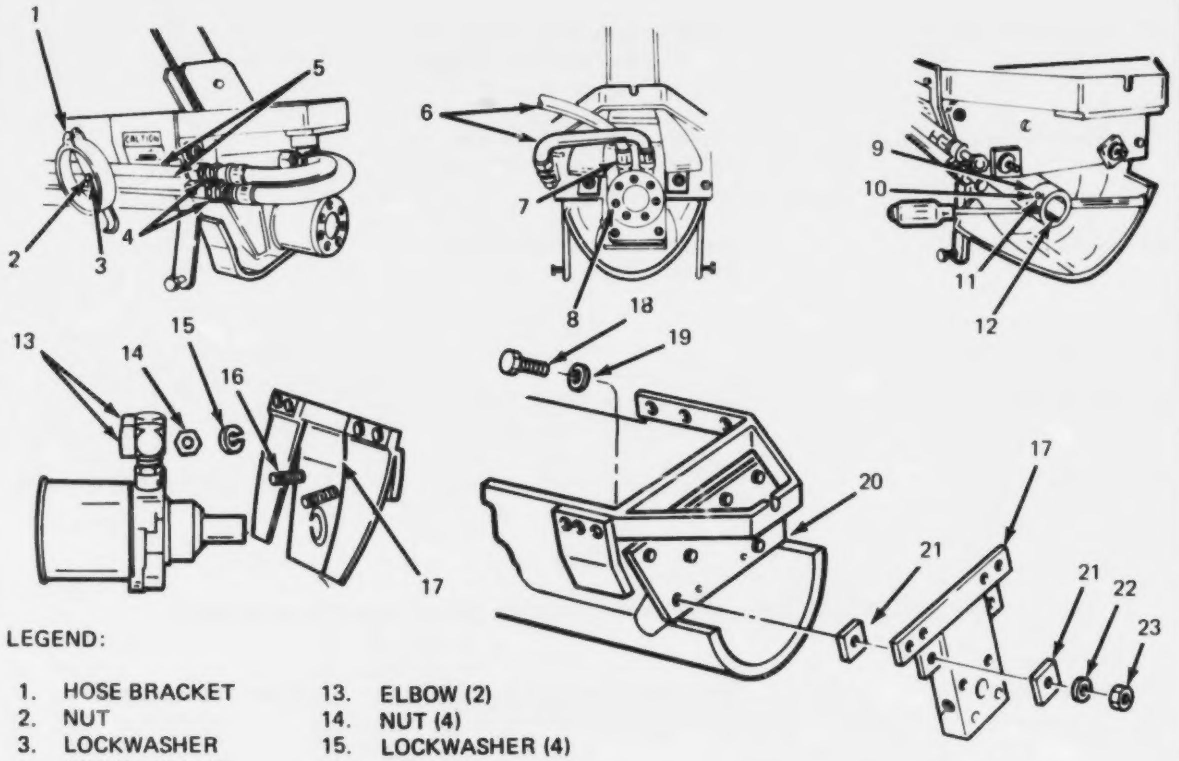
10-16. HYDRAULIC MOTOR MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS
A. REMOVAL (Continued).		
3. Two hose fittings (7).	Unscrew and remove two hoses (6) from vehicle.	Note location for ease of installation.
4. Two nuts (23), flat washers (22), flat washers (19), bolts (18), and four rubber spacers (21).	Remove from end plate (20).	Located behind rubber flaps.
5. Two bolts (11) and nuts (10).	Loosen.	
6. Shaft coupling (9).	Wedge a tapered tool into slots on sides of coupling.	
7. Hydraulic motor (8).	Remove from shaft coupling (9).	
8. Woodruff key (12).	Remove from motor shaft.	
9. Four bolts (16), nuts (14) and lockwashers (15).	Remove.	
10. Mounting bracket (17).	Remove from hydraulic motor (8).	
11. Two elbows (13).	Remove from hydraulic motor (8).	Note location for ease of installation.
B. INSTALLATION.		
	NOTE Apply liquid teflon to all threaded joints at assembly.	
12. Two elbows (13).	Install in hydraulic motor (8).	Coat threads with liquid teflon.
13. Mounting bracket (17).	Install on hydraulic motor (8) with four bolts (16), lockwashers (15) and nuts (14).	
14. Woodruff key (12).	Install in motor shaft.	
15. Hydraulic motor (8).	Install in shaft coupling (9).	Once installed, remove wedge tool from slot.
16. Two bolts (11) and nuts (10).	Tighten securely.	

HYDRAULIC SYSTEM.

10-16. HYDRAULIC MOTOR MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS



LEGEND:

1. HOSE BRACKET
2. NUT
3. LOCKWASHER
4. SWIVEL NUT (2)
5. PIPE (2)
6. HOSE (2)
7. HOSE FITTING (2)
8. HYDRAULIC MOTOR
9. SHAFT COUPLING
10. NUT (2)
11. BOLT (2)
12. WOODRUFF KEY
13. ELBOW (2)
14. NUT (4)
15. LOCKWASHER (4)
16. BOLT (4)
17. MOUNTING BRACKET
18. BOLT (2)
19. FLAT WASHER (2)
20. END PLATE
21. RUBBER SPACER (4)
22. FLAT WASHER (2)
23. NUT (2)

TA 076414

10-16. HYDRAULIC MOTOR MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS
B. INSTALLATION (Continued).		
17. Two nuts (23), flat washers (22), flat washers (19), bolts (18) and four rubber spacers (21).	Install per illustration to end plate (20).	
18. Two hoses (6).	Install in hydraulic motor (8) and tighten two hose fittings (7).	
19. Two swivel nuts (4).	Unplug two pipes (5) and tighten two swivel nuts (4) to two hoses (6).	
20. Hose bracket (1).	Install with lockwasher (3) and nut (2).	
C. OPERATIONAL CHECK.		
21. Mixer body.	Start up (see TM 9-2320-273-10 and TM 5-3895-372-10).	
22. Auger.	Activate and check for leaks.	Tighten connections as necessary.

NOTE

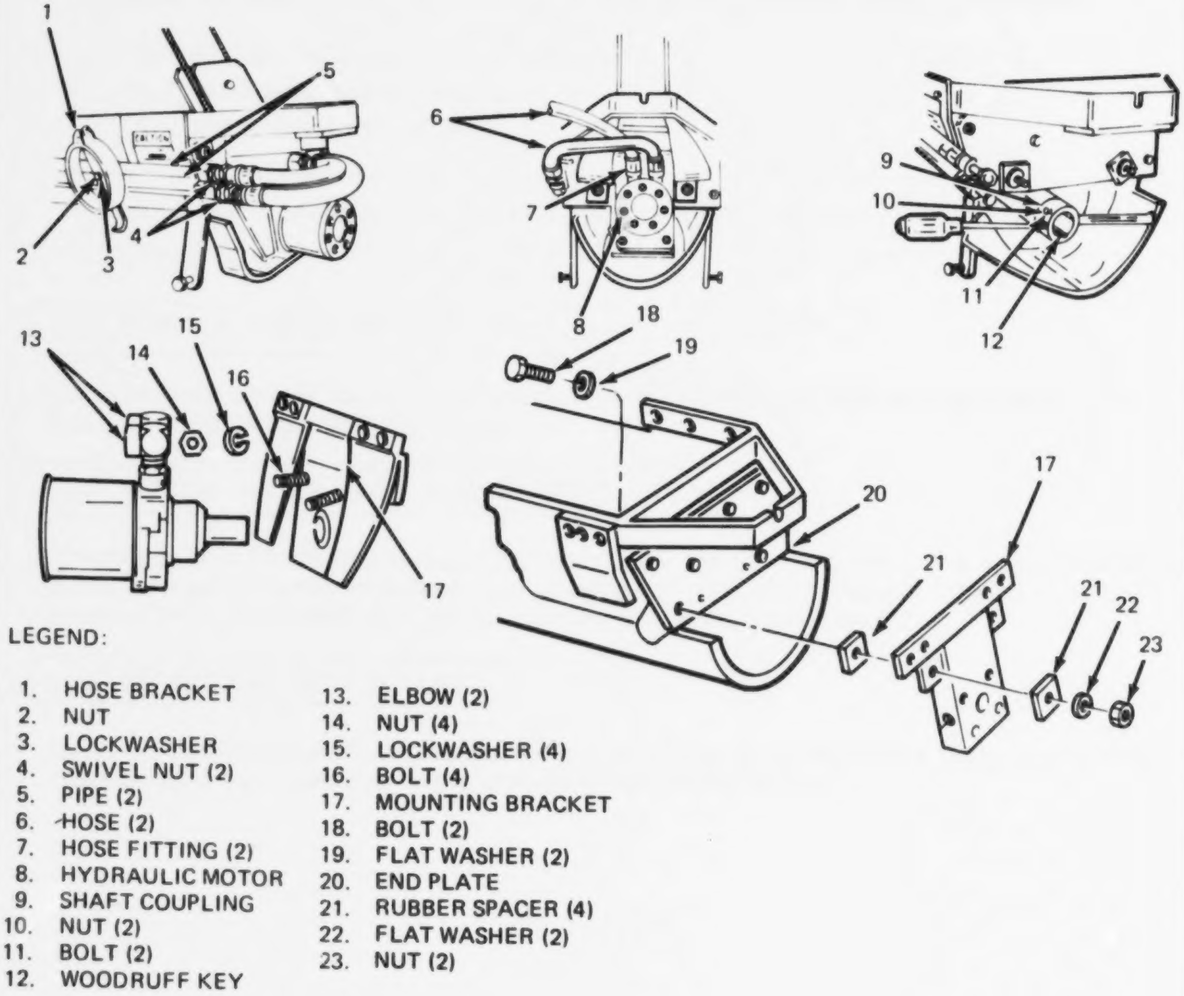
If auger is not rotating in correct direction, switch hose (6) connections.

LOCATION/ITEM	ACTION	REMARKS
23. Mixer body.	Shut down (see TM 9-2320-273-10 and TM 5-3895-372-10).	Raise and latch auger.

HYDRAULIC SYSTEM.

10-16. HYDRAULIC MOTOR MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS



LEGEND:

1. HOSE BRACKET
2. NUT
3. LOCKWASHER
4. SWIVEL NUT (2)
5. PIPE (2)
6. HOSE (2)
7. HOSE FITTING (2)
8. HYDRAULIC MOTOR
9. SHAFT COUPLING
10. NUT (2)
11. BOLT (2)
12. WOODRUFF KEY
13. ELBOW (2)
14. NUT (4)
15. LOCKWASHER (4)
16. BOLT (4)
17. MOUNTING BRACKET
18. BOLT (2)
19. FLAT WASHER (2)
20. END PLATE
21. RUBBER SPACER (4)
22. FLAT WASHER (2)
23. NUT (2)

TA 076415

CHAPTER 11

AIR SYSTEM

11-1. OVERVIEW.

This chapter provides you with the following information related to air system maintenance:

a. All required special tools and equipment.
b. Troubleshooting procedures.
c. Maintenance procedures.

Section I REPAIR PARTS, SPECIAL TOOLS, TMDE, AND SUPPORT EQUIPMENT

11-2. COMMON TOOLS AND EQUIPMENT.

For authorized common tools and equipment, refer to the Modified Table of Organization and Equipment (MTOE) applicable to your unit.

11-3. SPECIAL TOOLS, TMDE, AND SUPPORT EQUIPMENT.

The special tools, TMDE, and support equipment for air system maintenance procedures described in this chapter are limited to air pressure gage, 0-150 psi (0-1000 kPa). (Refer to Organizational Maintenance RPSTL, TM 5-3895-372-20P for tool description and illustration.)

11-4. SPARES AND REPAIR PARTS.

Spares and repair parts are listed and illustrated in the Repair Parts and Special Tools List covering Organizational Maintenance for this equipment (TM 5-3895-372-20P).

Section II TROUBLESHOOTING

11-5. INTRODUCTION.

Troubleshooting procedures for the air system are given in table 11-1. It is arranged by malfunctions, in the following order:

a. Air pressure is low (below 65 psi, 448 kPa) (Malfunction No. 1).

b. Cement in bin is not properly aerated (Malfunction No. 2).

c. Vibrators do not function properly (Malfunction No. 3).

NOTE

Troubleshooting procedures for low admix air pressure are contained in table 6-1.

Troubleshooting procedures for cement screen vibrator are contained in table 8-1.

Table 11-1. Air System Troubleshooting Procedures.

MALFUNCTION

TEST OR INSPECTION

CORRECTIVE ACTION

---

1. AIR PRESSURE IS LOW (Below 65 psi, 448 kPa):

    Step 1. Check that air tank draincock is closed.

    Close draincock.

    Step 2. Check that air control valve is open.

    Open valve.

    Step 3. Check that fluffer valve and vibrator valves are not stuck (para 11-11 and 11-14).

    Lubricate valves. Replace if necessary.

    Step 4. Check air filter for loose or broken bowl or defective O-ring.

    Tighten bowl or replace filter (para 11-13).

    Step 5. Use soap solution to check for leaks in air system.

    Replace leaking lines or valves.

    Step 6. Troubleshoot chassis air system (refer to TM 9-2320-273-20).

2. CEMENT IN BIN IS NOT PROPERLY AERATED.

    Step 1. Check that air pressure is above 65 psi (448 kPa) (see TM 9-2320-273-10).

    Refer to Malfunction No. 1.

    Step 2. Check air supply to air pads.

    a. Remove air hoses at bottom outside of bin.

    b. Actuate manual control valve. Check for air from hoses.

    c. If no air comes out, disconnect hose from manual control valve. Actuate valve.

    (1) If air comes out, hose is blocked. Remove block or replace hose (para 11-12).

    (2) If no air comes out, valve is blocked or broken. Clean or replace valve (para 11-12).

    Step 3. Check filter cloth.

    a. Empty bin until cement is 3-5 in. (7.6-12.7 cm) deep.

Table 11-1. Air System Troubleshooting Procedures (Continued).

MALFUNCTION

TEST OR INSPECTION

CORRECTIVE ACTION

---

2. CEMENT IN BIN IS NOT PROPERLY AERATED (Continued):

b. Actuate air pads.

1. If filter cloth is torn, you will see a blast of air.
2. If filter cloth is clogged, no air action will be visible
3. If filter cloth is in good condition, you will see gentle puffs of cement.

Replace torn or clogged filter cloth (para 8-11).

Step 4. Open draincocks of truck air reservoirs (see TM 9-2320-273-20) and mixer body moisture trap. Check for moisture in air system.

Drain completely, then close cocks.

3. VIBRATORS DO NOT FUNCTION PROPERLY:

Step 1. Check that air pressure is above 65 psi (448 kPa).

Refer to Malfunction No. 1.

Step 2. Check that lubricator bowl is full of oil.

Fill lubricator (see TM 5-3895-372-10).

Step 3. Check for a fine mist of oil at the vibrators as they are operated.

If there is no mist, replace lubricator.

Step 4. Check for cam follower clearance of 1/16 in. (1.6 mm) (para 11-10).

Adjust timing device.

Step 5. Open draincocks of truck air reservoirs (see TM 9-2320-273-20) and mixer body moisture trap. Check for moisture in air system.

Drain completely, then close cocks.

Step 6. Use soap solution to check for air line leaks.

Replace leaking lines.

Table 11-1. Air System Troubleshooting Procedures (Continued).

MALFUNCTION

TEST OR INSPECTION

CORRECTIVE ACTION

3. VIBRATORS DO NOT FUNCTION PROPERLY (Continued):

Step 7. Disconnect air hoses at vibrators and check for air supply.

Find blockage. Clear out or replace blocked line or valve (para 11-12).

Step 8. Lubricate vibrator.

a. Disconnect air hose at vibrator.

b. Put several drops of penetrating oil into vibrator.

NOTE

If vibrator end of hose is hard to reach, disconnect other end. Put the penetrating oil into the hose.

c. Reconnect hose and check vibrator operation.

d. Remove and clean vibrator (para 11-8).

e. If vibrator still does not work, replace it.

Section III MAINTENANCE PROCEDURES

11-6. INTRODUCTION.

This section provides you with Organizational Level maintenance procedures for the air system of the mixer body. Paragraph 11-7 summarizes the maintenance tasks. Paragraphs 11-8 thru 11-14 contain detailed instructions for each task.

11-7. AIR SYSTEM MAINTENANCE TASK SUMMARY.

INITIAL SETUP

APPLICABLE CONFIGURATIONS

M919.

EQUIPMENT CONDITION PARAGRAPH	CONDITION DESCRIPTION
TM 9-2320-273-10.	Air System Bled.

TEST EQUIPMENT

None.

SPECIAL TOOLS

None.

MATERIALS/PARTS (P/N)

Penetrating Oil (Refer to Appendix C).
No. 320 Emery Paper.
Oil (Refer to Appendix C).
Liquid Teflon (Refer to Appendix C).
Dry Cleaning Solvent SD-2 (Refer to Appendix C).

SPECIAL ENVIRONMENTAL CONDITIONS

Vehicle Parked on Level Ground.

PERSONNEL REQUIRED

Two (MOS-62B20).

REFERENCES (TM)

LO 5-3895-372-12.
TM 5-3895-372-10.
TM 5-3895-372-20P.
TM 9-2320-273-10.

GENERAL SAFETY INSTRUCTIONS

Engine Off.
Transmission in Neutral
Park Brake Set.

REFERENCES (TROUBLESHOOTING)

Table 11-1.

LIST OF TASKS

TASK NO.	TASK	TASK REF	TROUBLESHOOTING REF (TABLE)
1.	Vibrator Maintenance and Replacement:	11-8	11-1
	A. Removal.	11-8A	
	B. Cleaning and lubrication.	11-8B	
	C. Installation.	11-8C	
	D. Operational check.	11-8D	

11-7. AIR SYSTEM MAINTENANCE TASK SUMMARY (Continued).

LIST OF TASKS

TASK NO.	TASK	TASK REF	TROUBLESHOOTING REF (TABLE)
2.	Lubricator Maintenance:	11-9	11-1
	A. Removal.	11-9A	
	B. Disassembly.	11-9B	
	C. Assembly.	11-9C	
	D. Installation.	11-9D	
	E. Operational check.	11-9E	
3.	Timing Device Adjustment:	11-10	11-1
	A. Inspection.	11-10A	
	B. Adjustment.	11-10B	
	C. Operational check.	11-10C	
4.	Timing Device Maintenance:	11-11	11-1
	A. Removal.	11-11A	
	B. Cleaning.	11-11B	
	C. Installation.	11-11C	
	D. Operational check.	11-11D	
5.	Air Valves and Hoses Maintenance:	11-12	11-1
	A. Removal.	11-12A	
	B. Inspection.	11-12B	
	C. Installation.	11-12C	
	D. Operational check.	11-12D	
6.	Air Filter Maintenance:	11-13	11-1
	A. Removal.	11-13A	
	B. Disassembly.	11-13B	
	C. Assembly.	11-13C	
	D. Installation.	11-13D	
	E. Operational check.	11-13E	

11-7. AIR SYSTEM MAINTENANCE TASK SUMMARY (Continued).

LIST OF TASKS

TASK NO.	TASK	TASK REF	TROUBLESHOOTING REF (TABLE)
7.	Fluffer Valve Maintenance:	11-14	11-1
	A. Removal.	11-14A	
	B. Inspection.	11-14B	
	C. Installation.	11-14C	
	D. Operational check.	11-14D	

AIR SYSTEM.

11-8. VIBRATOR MAINTENANCE AND REPLACEMENT.

THIS TASK COVERS: (APPROXIMATE TIME REQUIRED FOLLOWS TASK DESCRIPTION.)

a. Removal.	(20)
b. Cleaning and Lubrication.	(20)
c. Installation.	(20)
d. Operational Check.	(5)
	65 Minutes Total.

INITIAL SETUP

EQUIPMENT CONDITION PARAGRAPH	CONDITION DESCRIPTION
TM 9-2320-273-10.	Air System Bled.

APPLICABLE CONFIGURATIONS

M919.

TEST EQUIPMENT

None.

SPECIAL TOOLS

None.

MATERIALS/PARTS (P/N)

Penetrating Oil (Refer to Appendix C).
No. 320 Emery Paper.
Oil (Refer to Appendix C).
Liquid Teflon (See Appendix C).

PERSONNEL REQUIRED

Two (MOS-62B20).

REFERENCES (TM)

LO 5-3895-372-12.
TM 5-3895-372-10.
TM 5-3895-372-20P.
TM 9-2320-273-10.

TROUBLESHOOTING REFERENCES

Table 11-1.

SPECIAL ENVIRONMENTAL CONDITIONS

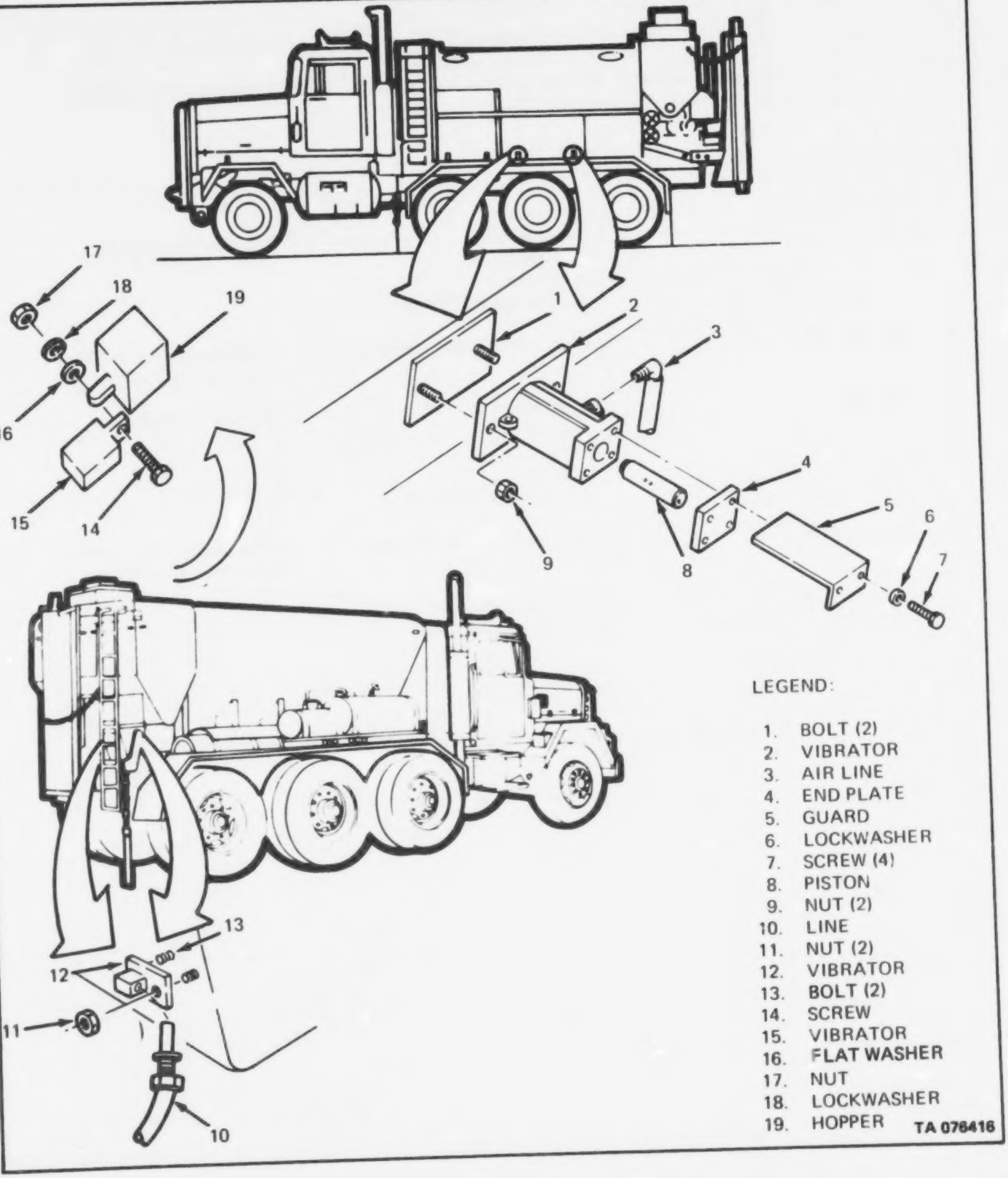
Vehicle Parked on Level Ground.

GENERAL SAFETY INSTRUCTIONS

Engine Off.
Transmission in Neutral.
Parking Brake Set.

11-8. VIBRATOR MAINTENANCE AND REPLACEMENT (Continued).

LOCATION/ITEM	ACTION	REMARKS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19

LEGEND:

1. BOLT (2)
2. VIBRATOR
3. AIR LINE
4. END PLATE
5. GUARD
6. LOCKWASHER
7. SCREW (4)
8. PISTON
9. NUT (2)
10. LINE
11. NUT (2)
12. VIBRATOR
13. BOLT (2)
14. SCREW
15. VIBRATOR
16. FLAT WASHER
17. NUT
18. LOCKWASHER
19. HOPPER

TA 076416

11-8. VIBRATOR MAINTENANCE AND REPLACEMENT (Continued).

WARNING

Before removing vibrator, be sure that air gate valve is closed. Check that draincocks have been opened to relieve pressure.

A. REMOVAL.

LOCATION/ITEM	ACTION	REMARKS
1. Air line (3).	a. Disconnect. b. Inspect for: 1. Cracks. 2. Leaks. 3. Damaged fittings.	Replace if necessary.
2. Two nuts (9).	Loosen and remove vibrator (2).	If necessary, tap vibrator loose with a hammer.
3. Line (10).	a. Disconnect. b. Inspect for: 1. Cracks. 2. Leaks. 3. Damaged fittings.	Replace if necessary.
4. Two nuts (11).	Loosen and remove vibrator (12).	If necessary, tap vibrator loose with a hammer.
5. One screw (14), flat washer (16), lockwasher (18), and nut (17).	Loosen and remove vibrator (15) from hopper (19).	

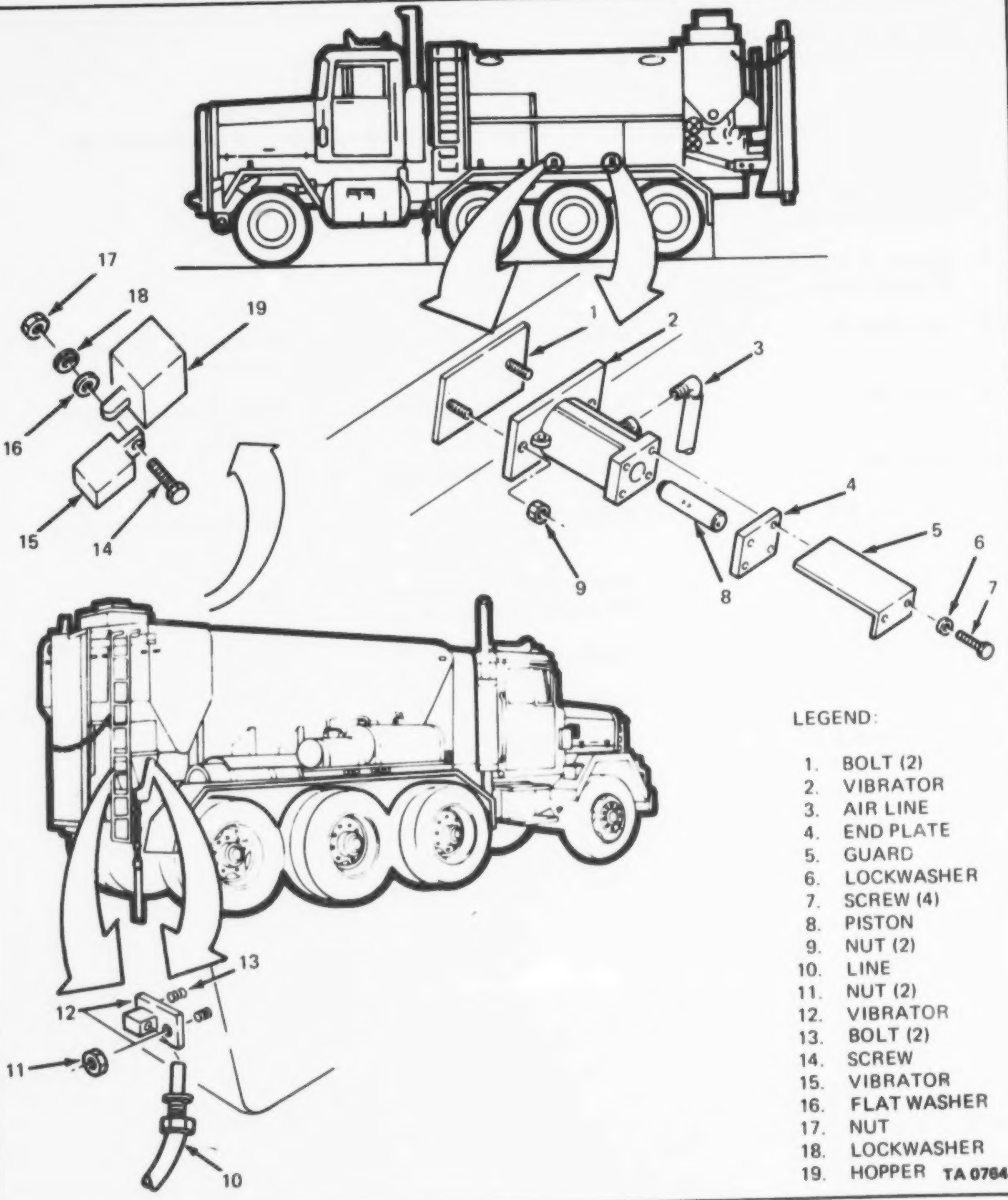
NOTE

If vibrators are to be replaced, advance to installation procedure "C".

AIR SYSTEM.

11-8. VIBRATOR MAINTENANCE AND REPLACEMENT (Continued).

LOCATION/ITEM	ACTION	REMARKS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LEGEND:

1. BOLT (2)
2. VIBRATOR
3. AIR LINE
4. END PLATE
5. GUARD
6. LOCKWASHER
7. SCREW (4)
8. PISTON
9. NUT (2)
10. LINE
11. NUT (2)
12. VIBRATOR
13. BOLT (2)
14. SCREW
15. VIBRATOR
16. FLAT WASHER
17. NUT
18. LOCKWASHER
19. HOPPER

TA 076417

AIR SYSTEM.

11-8. VIBRATOR MAINTENANCE AND REPLACEMENT (Continued).

B. CLEANING AND LUBRICATION.

NOTE

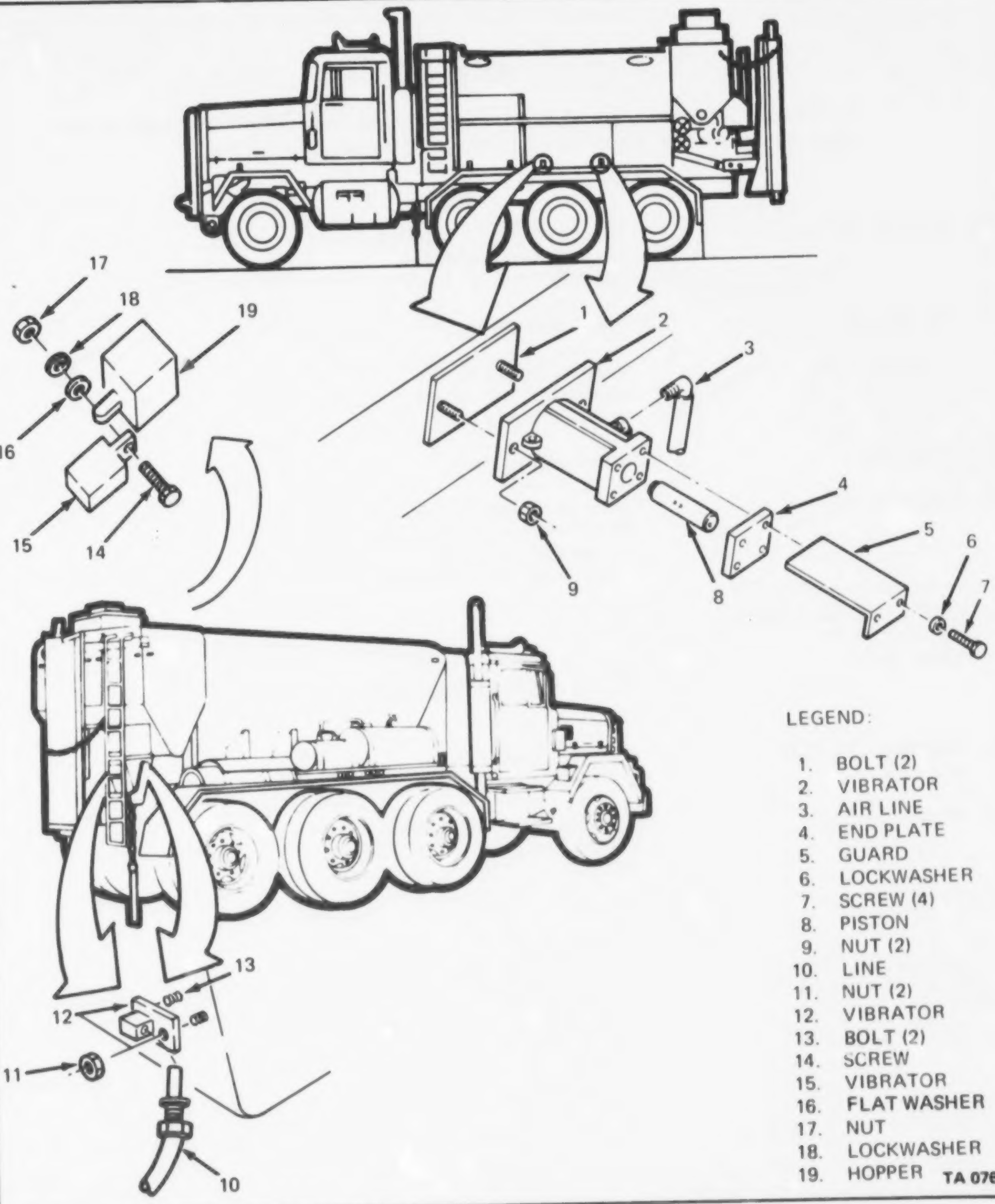
The following procedure is for cleaning only. Components are not available for service.

LOCATION/ITEM	ACTION	REMARKS
6. Four screws (7) and lockwashers (6).	Remove.	
7. Guard (5) (sand bin vibrators only).	Remove.	
8. End plate (4).	Remove.	If necessary, tap loose with hammer.
9. Piston (8).	Add a drop of penetrating oil.	Piston located inside of vibrator.
10. Piston (8).	Remove from vibrator (2).	
11. Piston (8) and vibrator (2).	Remove rust.	Use No. 320 emery paper.
12. Piston (8).	Oil piston with machine oil and replace in vibrator (2).	
13. End plate (4).	Install.	
14. Guard (5).	Install.	
15. Four screws (7) and lockwashers (6).	Install and tighten.	

AIR SYSTEM.

11-8. VIBRATOR MAINTENANCE AND REPLACEMENT (Continued).

LOCATION/ITEM	ACTION	REMARKS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LEGEND:

1. BOLT (2)
2. VIBRATOR
3. AIR LINE
4. END PLATE
5. GUARD
6. LOCKWASHER
7. SCREW (4)
8. PISTON
9. NUT (2)
10. LINE
11. NUT (2)
12. VIBRATOR
13. BOLT (2)
14. SCREW
15. VIBRATOR
16. FLAT WASHER
17. NUT
18. LOCKWASHER
19. HOPPER

TA 076418

AIR SYSTEM.

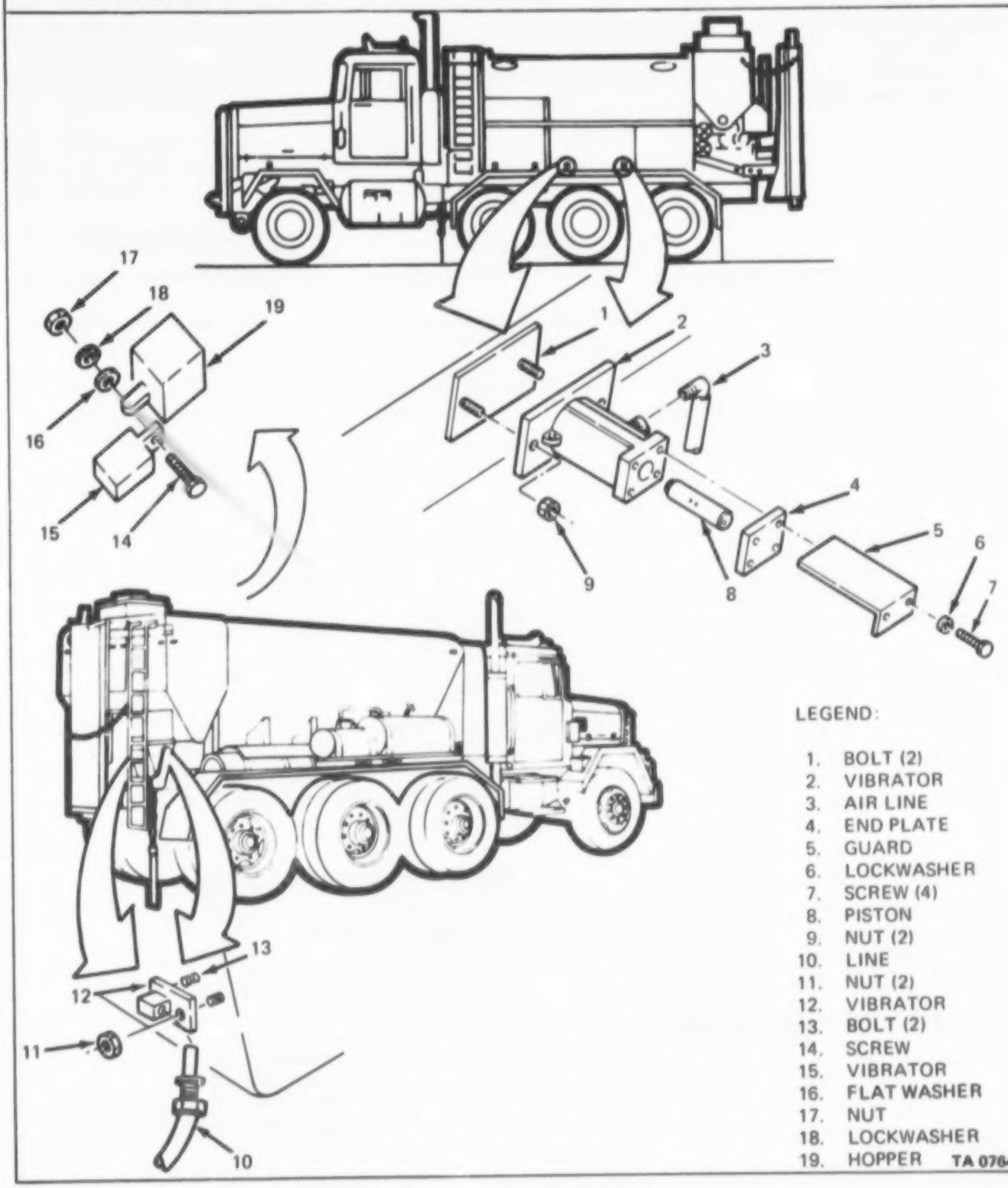
11-8. VIBRATOR MAINTENANCE AND REPLACEMENT (Continued).

LOCATION/ITEM	ACTION	REMARKS
C. INSTALLATION.		
NOTE If vibrators (2) and (12) are replaced, transfer elbow from defective vibrator to the replacement vibrator. Apply liquid teflon to all threaded air fittings.		
16. Vibrator (2).	Aline to bolts (1) on sand bin and secure with two nuts (9).	
17. Air line (3).	Install and tighten.	
18. Vibrator (12).	Aline to bolts (13) on cement bin and secure with two nuts (11).	
19. Line (10).	Install and tighten.	
20. Vibrator (15).	Aline to hopper (19) and secure with one screw (14), flat washer (16), lockwasher (18), and nut (17).	
D. OPERATIONAL CHECK.		
21. Mixer body.	Start up (see TM 5-3895-372-10 and TM 9-2320-273-10).	
22. Vibrators (2), (12) and (15).	a. Check operation. b. Check for air leaks.	
23. Mixer body.	Shut down (see TM 5-3895-372-10 and TM 9-2320-273-10).	

AIR SYSTEM.

11-8. VIBRATOR MAINTENANCE AND REPLACEMENT (Continued).

LOCATION/ITEM	ACTION	REMARKS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LEGEND:

1. BOLT (2)
2. VIBRATOR
3. AIR LINE
4. END PLATE
5. GUARD
6. LOCKWASHER
7. SCREW (4)
8. PISTON
9. NUT (2)
10. LINE
11. NUT (2)
12. VIBRATOR
13. BOLT (2)
14. SCREW
15. VIBRATOR
16. FLAT WASHER
17. NUT
18. LOCKWASHER
19. HOPPER

TA 076419

AIR SYSTEM.

11-9. LUBRICATOR MAINTENANCE.

THIS TASK COVERS: (APPROXIMATE TIME REQUIRED FOLLOWS TASK DESCRIPTION.)

a. Removal.	(15)
b. Disassembly.	(10)
c. Assembly.	(10)
d. Installation.	(15)
e. Operational Check.	(5)
	55 Minutes Total.

INITIAL SETUP

APPLICABLE CONFIGURATIONS

M919.

TEST EQUIPMENT

None.

SPECIAL TOOLS

None.

MATERIALS/PARTS (P/N)

Dry Cleaning Solvent (Refer to Appendix C).
Liquid Teflon (Refer to Appendix C).
Oil (Refer to Appendix C).

EQUIPMENT CONDITION PARAGRAPH	CONDITION DESCRIPTION
TM 9-2320-273-10.	Air System Bled.

PERSONNEL REQUIRED

One (MOS-62B20).

REFERENCES (TM)

LO 5-3895-372-12.
TM 5-3895-372-10.
TM 5-3895-372-20P.
TM 9-2320-273-10.

TROUBLESHOOTING REFERENCES

Table 11-1.

SPECIAL ENVIRONMENTAL CONDITIONS

Vehicle Parked on Level Ground.

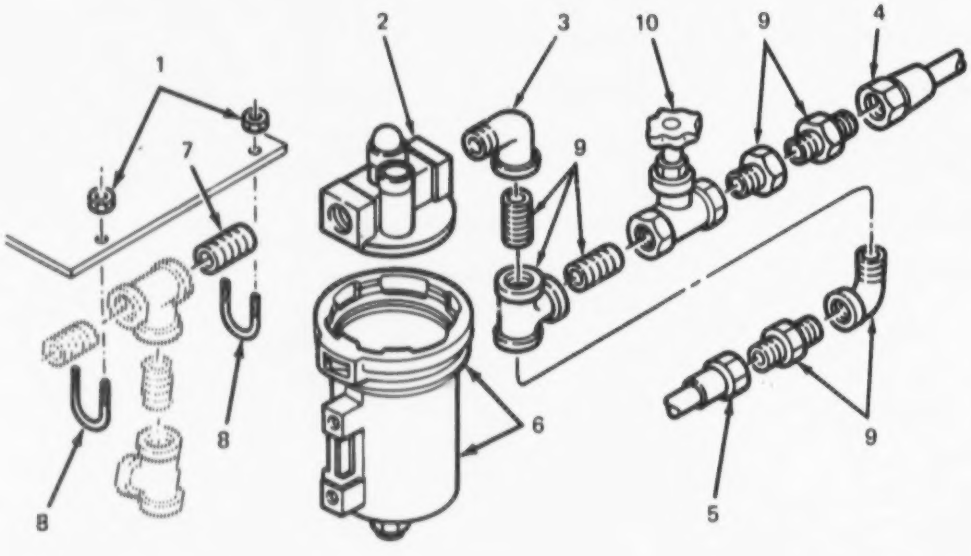
GENERAL SAFETY INSTRUCTIONS

Engine Off.
Transmission in Neutral.
Parking Brake Set.

AIR SYSTEM.

11-9. LUBRICATOR MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS
A. REMOVAL.		
1. Lubricator, lock ring and canister (6).	Unlock and remove and empty oil in clean container.	
2. Air hose (4).	Remove.	
3. Air hose (5).	Remove.	
4. Four nuts (1).	Remove.	
5. Two U-bolts (8).	Remove.	
6. Lubricator head (2).	Swing out from vehicle and unscrew from nipple (7).	
7. Street elbow (3) and attached components (9 and 10).	Unscrew from lubricator head (2).	



LEGEND:

1. NUT (4)
2. LUBRICATOR HEAD
3. ELBOW
4. AIR HOSE
5. AIR HOSE
6. LOCKRING & CANISTER
7. NIPPLE
8. U-BOLT (2)
9. FITTING
10. FEMALE GATE VALVE

TA 076420

AIR SYSTEM.

11-9. LUBRICATOR MAINTENANCE (Continued).

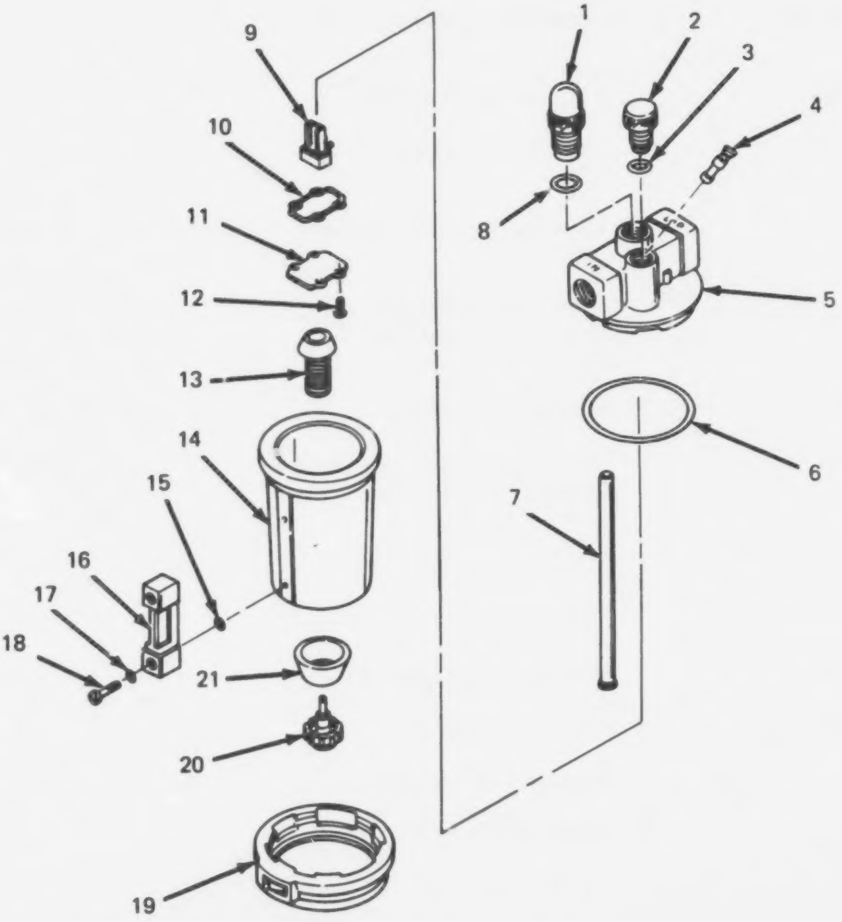
B. DISASSEMBLY.

LOCATION/ITEM	ACTION	REMARKS
8. Sight glass (1).	Remove from head (5).	
9. O-ring (8).	Remove.	
10. Fill plug (2).	Remove.	
11. O-ring (3).	Remove.	
12. Valve (4).	Remove.	
13. O-ring (6).	Remove.	
14. Tube (7).	Remove.	
15. Four screws (12).	Remove.	
16. Plate (11) and gasket (10).	Remove.	
17. Servo vane (9).	Remove.	
18. Two screws (18).	Remove.	
19. Level gage (16).	Remove.	
20. Four O-rings (15) and (17).	Remove.	
21. Lock ring (19).	Slide off of canister (14).	
22. Retainer (13).	Unscrew and disassemble cap (21) from canister (14).	

AIR SYSTEM.

11-9. LUBRICATOR MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS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LEGEND:

1. SIGHT GLASS
2. FILL PLUG
3. O-RING
4. VALVE
5. HEAD
6. O-RING
7. TUBE
8. O-RING
9. SERVO-VANE
10. GASKET
11. PLATE
12. SCREW (4)
13. RETAINER
14. CANISTER
15. O-RING (2)
16. LEVEL GAUGE
17. O-RING (2)
18. SCREW
19. LOCK RING
20. DRAIN VALVE
21. CAP

TA 076421

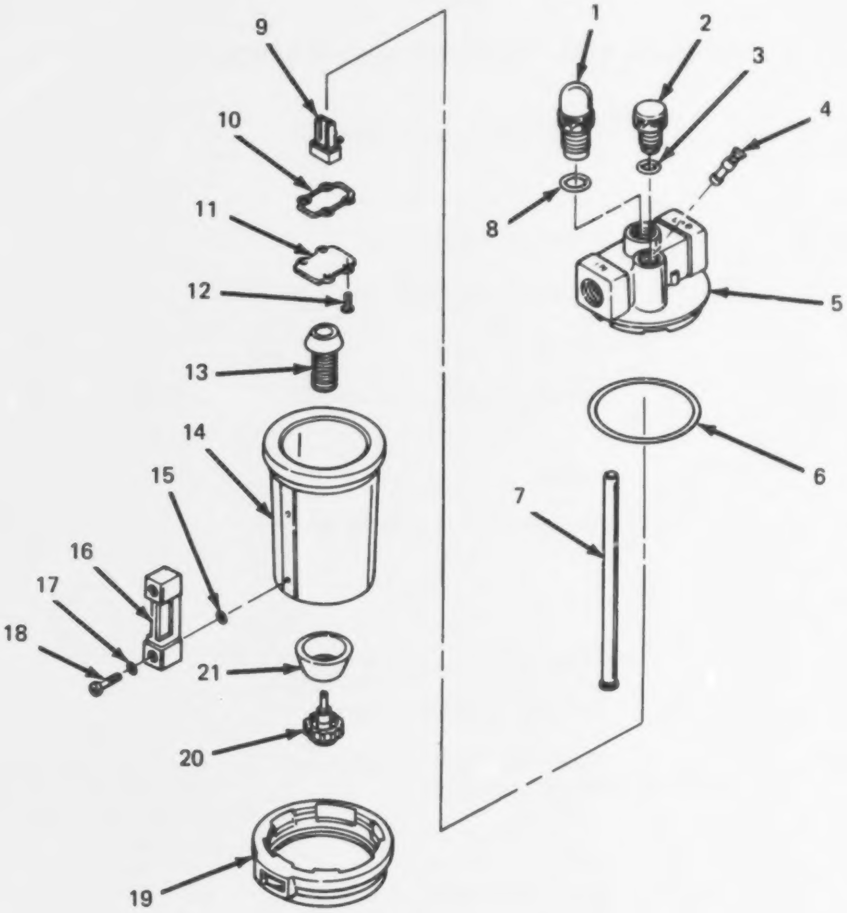
AIR SYSTEM.

11-9. LUBRICATOR MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS
C. ASSEMBLY.		
23. Retainer (13) and cap (21).	Assemble to canister (14).	
24. Lock ring (19).	Slide on canister (14).	
25. Two screws (18).	Install two O-rings (17) over screws.	
26. Level gage (16).	Install screws (18) through gage.	
27. Two O-rings (15).	Slide over screws (18) and mount level gage (16) to canister (14).	
28. Servo-vane (9).	Position in head (5).	
29. Plate (11) and gasket (10).	Secure to head (5) with four screws (12) mounting servo-vane (9).	
30. Tube (7).	Install in head (5).	
31. O-ring (6).	Install on head (5).	
32. O-ring (8).	Slide over sight glass (1).	
33. Sight glass (1).	Screw into head (5).	
34. O-ring (3).	Slide over fill plug (2).	
35. Fill plug (2).	Screw into head (5).	
36. Valve (4).	Install in head (5).	

11-9. LUBRICATOR MAINTENANCE (Continued).

LOCATION/ITEM **ACTION** **REMARKS**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LEGEND:

1. SIGHT GLASS
2. FILL PLUG
3. O-RING
4. VALVE
5. HEAD
6. O-RING
7. TUBE
8. O-RING
9. SERVO-VANE
10. GASKET
11. PLATE
12. SCREW (4)
13. RETAINER
14. CANISTER
15. O-RING (2)
16. LEVEL GAUGE
17. O-RING (2)
18. SCREW
19. LOCK RING
20. DRAIN VALVE
21. CAP

TA 076422

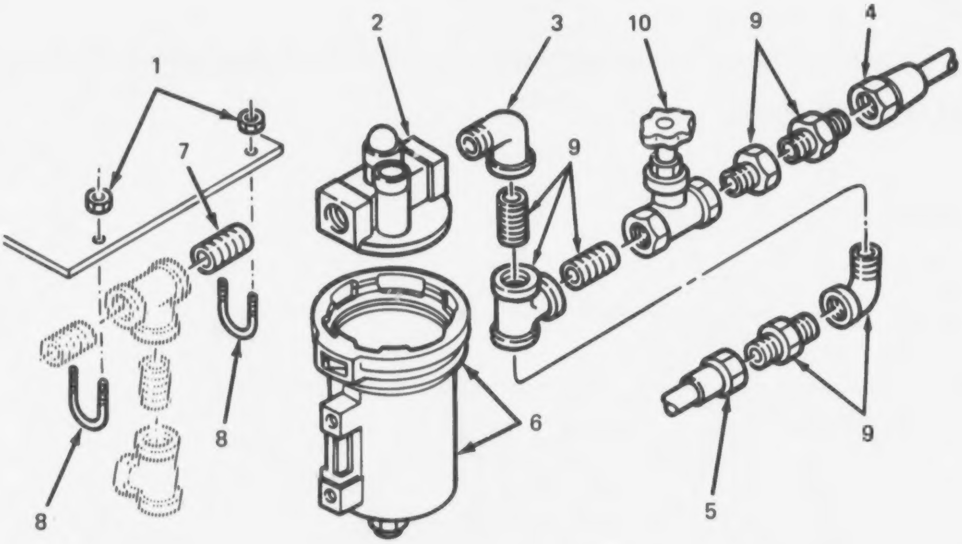
11-9. LUBRICATOR MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS
D. INSTALLATION.		
	NOTE Apply liquid teflon on threaded joints at installation.	
37. Street elbow (3) and attached components (9, 10).	Install in lubricator head (2).	
38. Lubricator head (2).	Install on nipple (7).	
39. Two U-bolts (8).	Install U-bolts with four nuts (1).	
40. Air hose (5).	Install.	
41. Lubricator lockring and canister (6).	Install on lubricator head (2).	
42. Air hose (4).	Install.	
43. Air lubricator.	Add oil, see LO 5-3895- 372-12.	
E. OPERATIONAL CHECK.		
44. Mixer body.	Close all draincocks and open valve. Start up. (See TM 5-3895-372-10.) Operate vibrators.	
45. Air lubricator.	Check for fine drop of oil as vibrators operate.	There should be one drop of oil every 3rd vibration. Adjust, if necessary. (See TM 5-3895-372-10.)
46. Mixer body.	Shut down (See TM 5-3895-372-10 and TM 9-2320-273-10).	

AIR SYSTEM.

11-9. LUBRICATOR MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS



LEGEND:

1. NUT (4)	6. LOCKRING & CANISTER
2. LUBRICATOR HEAD	7. NIPPLE
3. ELBOW	8. U-BOLT (2)
4. AIR HOSE	9. FITTING
5. AIR HOSE	10. FEMALE GATE VALVE

TA 076423

AIR SYSTEM.

11-10. TIMING DEVICE ADJUSTMENT.

THIS TASK COVERS: (APPROXIMATE TIME REQUIRED FOLLOWS TASK DESCRIPTION.)

a. Inspection.	(5)
b. Adjustment.	(5)
c. Operational Check.	(5)
	15 Minutes Total.

INITIAL SETUP

APPLICABLE CONFIGURATIONS

M919.

TEST EQUIPMENT

None.

SPECIAL TOOLS

None.

MATERIALS/PARTS (P/N)

None.

EQUIPMENT CONDITION PARAGRAPH	CONDITION DESCRIPTION
None.	None.

PERSONNEL REQUIRED

One (MOS-62B20).

REFERENCES (TM)

TM 5-3895-372-20P.
TM 5-3895-372-10.
TM 9-2320-273-10.

TROUBLESHOOTING REFERENCES

Table 11-1.

SPECIAL ENVIRONMENTAL CONDITIONS

Vehicle Parked on Level Ground.

GENERAL SAFETY INSTRUCTIONS

Engine Off.
Transmission in Neutral.
Parking Brake Set.

AIR SYSTEM.

11-10. TIMING DEVICE ADJUSTMENT (Continued).

LOCATION/ITEM	ACTION	REMARKS

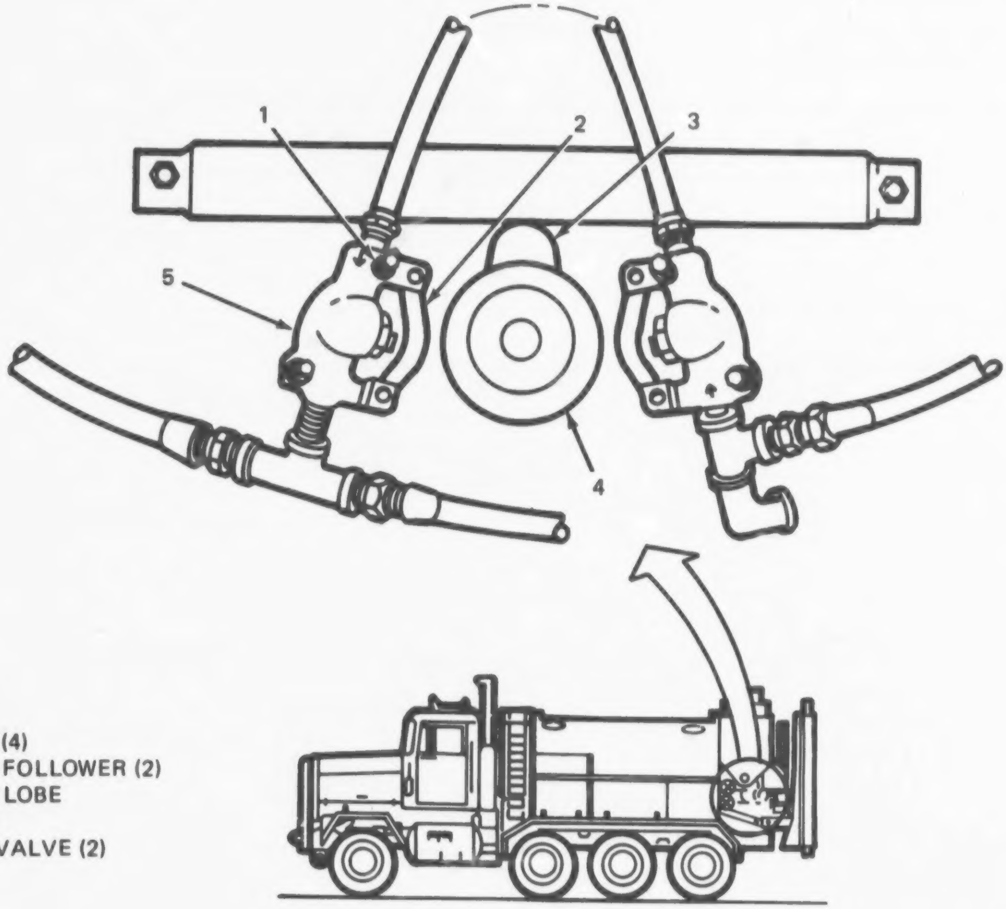
A. INSPECTION.

NOTE

Before beginning service, open cam and air valve access panel.

NOTE

The two cam followers (2) should not be lifted by cam lobe (3) when clearance is checked.



LEGEND:

1. NUT (4)
2. CAM FOLLOWER (2)
3. CAM LOBE
4. CAM
5. AIR VALVE (2)

TA 076424

11-10. TIMING DEVICE ADJUSTMENT (Continued).

LOCATION/ITEM	ACTION	REMARKS
A. INSPECTION (Continued).		
1. Two cam followers (2) and cam (4).	Check for 1/16 in. (1.6 mm) clearance.	Use 1/16 in. (1.6 mm) steel plate or suitable measuring device.

NOTE

If clearance does not comply to specified tolerance, proceed to adjustment procedures.

LOCATION/ITEM	ACTION	REMARKS
B. ADJUSTMENT.		
2. Four nuts (1). (two per valve).	Loosen.	
3. Air valve (5).	Slide valve until 1/16 in. (1.6 mm) clearance is obtained between cam and follower.	
4. Four nuts (1).	Tighten.	After tightening, check to be sure clearance has not changed.
C. OPERATIONAL CHECK.		
5. Mixer body.	Start up (see TM 5-3895-372-10 and TM 9-2320-273-10). Check operation of vibrators. Shut down vehicle and close access panel.	

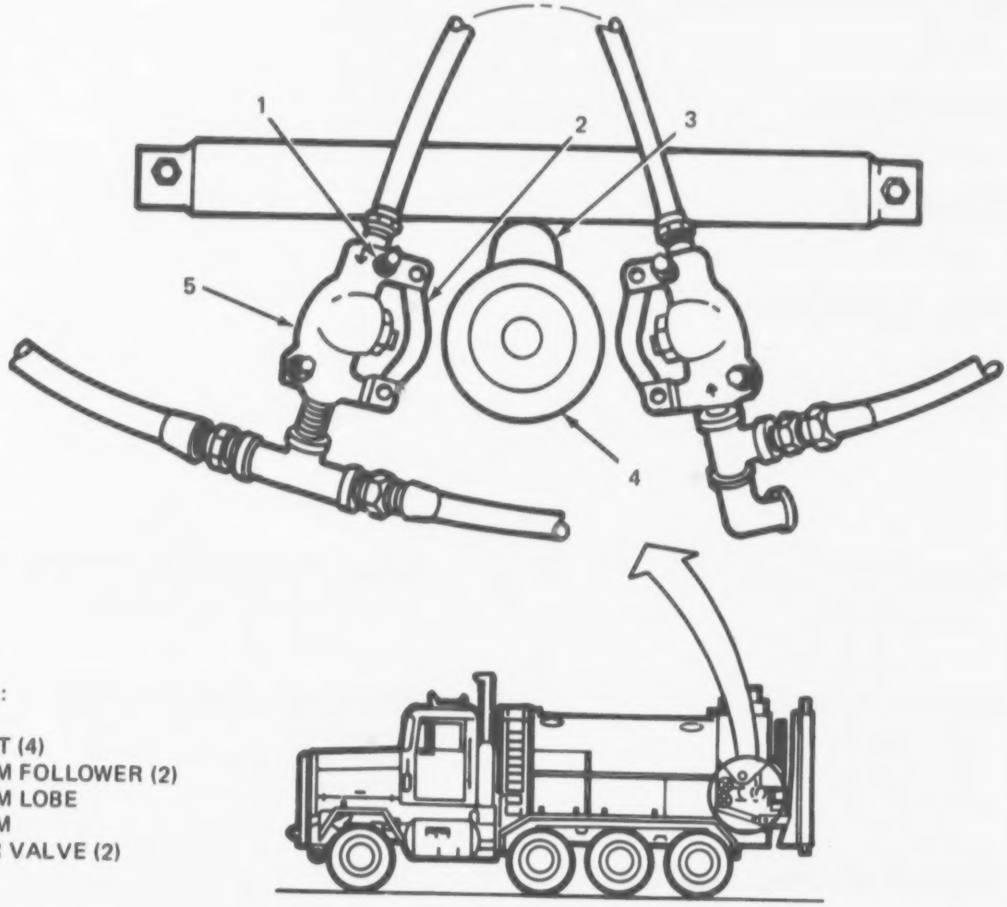
AIR SYSTEM.

11-10. TIMING DEVICE ADJUSTMENT (Continued).

LOCATION/ITEM	ACTION	REMARKS

NOTE

These valves show air flow by means of an embossed directional arrow. If valves are to be replaced, be sure the flow is in the correct direction.



LEGEND:

1. NUT (4)
2. CAM FOLLOWER (2)
3. CAM LOBE
4. CAM
5. AIR VALVE (2)

TA 076425

AIR SYSTEM.

11-11. TIMING DEVICE MAINTENANCE.

THIS TASK COVERS: (APPROXIMATE TIME REQUIRED FOLLOWS TASK DESCRIPTION.)

a. Removal.	(15)
b. Cleaning.	(15)
c. Installation.	(15)
d. Operational Check.	(5)
	50 Minutes Total.

INITIAL SETUP

EQUIPMENT CONDITION PARAGRAPH	CONDITION DESCRIPTION
11-12A.	Air Lines Disconnected.

APPLICABLE CONFIGURATIONS

M919.

TEST EQUIPMENT

None.

SPECIAL TOOLS

None.

MATERIALS/PARTS (P/N)

None.

PERSONNEL REQUIRED

One (MOS-62B20).

REFERENCES (TM)

TM 5-3895-372-10.
TM 5-3895-372-20P.
TM 9-2320-273-10.

TROUBLESHOOTING REFERENCES

Table 11-1.

SPECIAL ENVIRONMENTAL CONDITIONS

Vehicle Parked on Level Ground.

GENERAL SAFETY INSTRUCTIONS

Engine Off.
Transmission in Neutral.
• Parking Brake Set.

11-11. TIMING DEVICE MAINTENANCE (Continued).

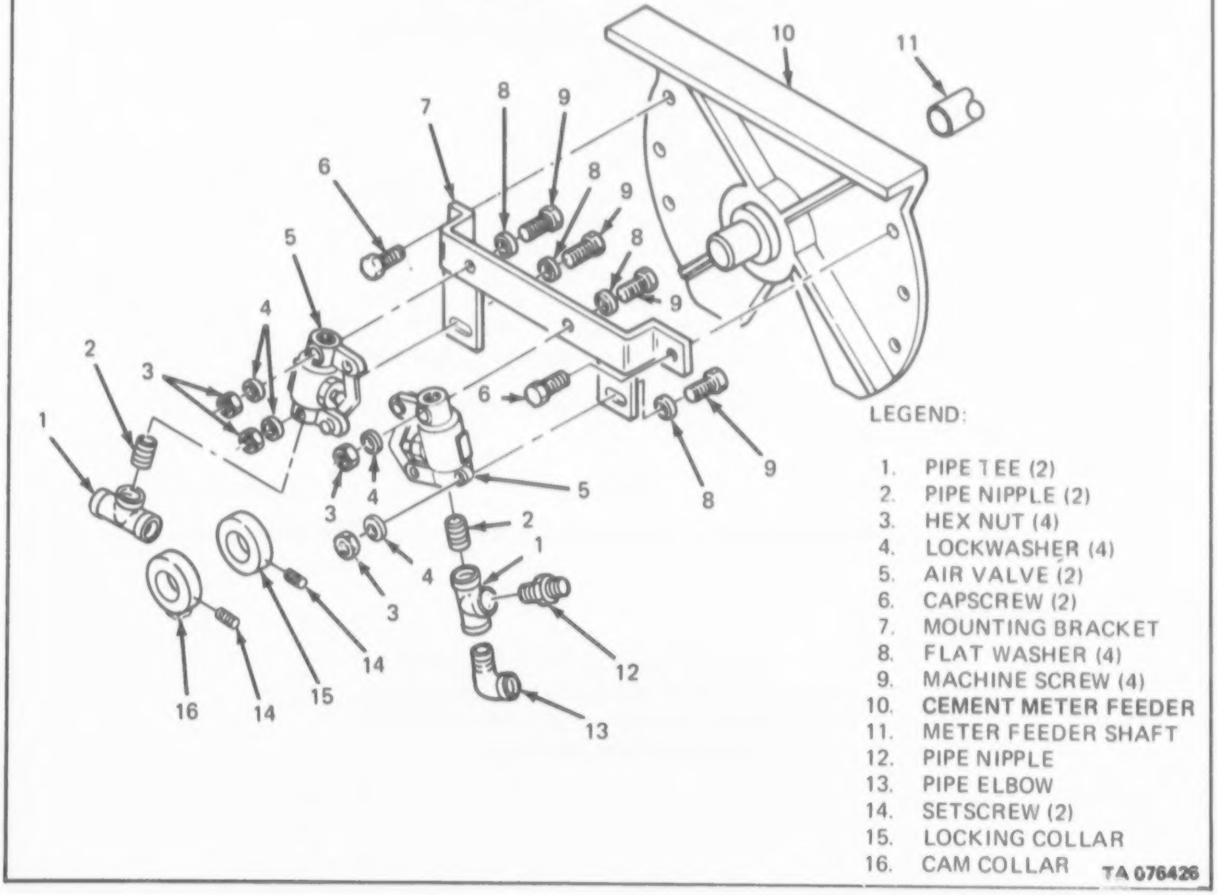
LOCATION/ITEM	ACTION	REMARKS

A. REMOVAL.

NOTE

Before beginning service, open cam and air valve access panel.

LOCATION/ITEM	ACTION	REMARKS
1. Two air valves (5).	a. Remove pipe tee (1) and pipe nipple (2) from left hand air valve (5). b. Remove pipe elbow (13), pipe nipple (12), pipe tee (1) and pipe nipple (2) from right hand air valve (5). c. Remove four hex nuts (3), lockwashers (4), flat washers (8), and machine screws (9). d. Remove two air valves (5).	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LEGEND:
1. PIPE TEE (2)
2. PIPE NIPPLE (2)
3. HEX NUT (4)
4. LOCKWASHER (4)
5. AIR VALVE (2)
6. CAPSCREW (2)
7. MOUNTING BRACKET
8. FLAT WASHER (4)
9. MACHINE SCREW (4)
10. CEMENT METER FEEDER
11. METER FEEDER SHAFT
12. PIPE NIPPLE
13. PIPE ELBOW
14. SETSCREW (2)
15. LOCKING COLLAR
16. CAM COLLAR

TA 076426

11-11. TIMING DEVICE MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS
A. REMOVAL (Continued).		
2. Cam collar (16) and locking collar (15).	Loosen two set screws (14) and remove from meter feeder shaft (11).	
3. Mounting bracket (7).	Remove two capscrews (6) and lift off end of cement meter feeder (10).	
B. CLEANING AND INSPECTION.		
4. All parts.	a. Remove cement build-up with a wire brush or scraper. b. Inspect for damage and excessive wear and replace as necessary.	
C. INSTALLATION.		
5. Mounting bracket (7).	Aline mounting holes with holes in cement meter feeder (10) and install two capscrews (6).	
6. Cam collar (16) and locking collar (15).	Install on meter feeder shaft (11) and tighten two setscrews (14).	
7. Two air valves (5).	a. Install on mounting bracket (7) and loosely secure with four machine screws (9), flat washers (8), lockwashers (4), and hex nuts (3). b. Apply liquid teflon to threads and install two pipe nipples (2), pipe tees (1), pipe nipple (12), and pipe elbow (13). c. Adjust timing device, refer to para 11-10.	

NOTE

Follow-on maintenance action required: Install air lines, refer to para 11-12C.

LOCATION/ITEM	ACTION	REMARKS
D. OPERATIONAL CHECK.		
8. Mixer body.	Start up (refer to TM 5-3895-372-10 and TM 9-2320-273-10). Check operation of vibrators. Shut down vehicle and close access panel.	

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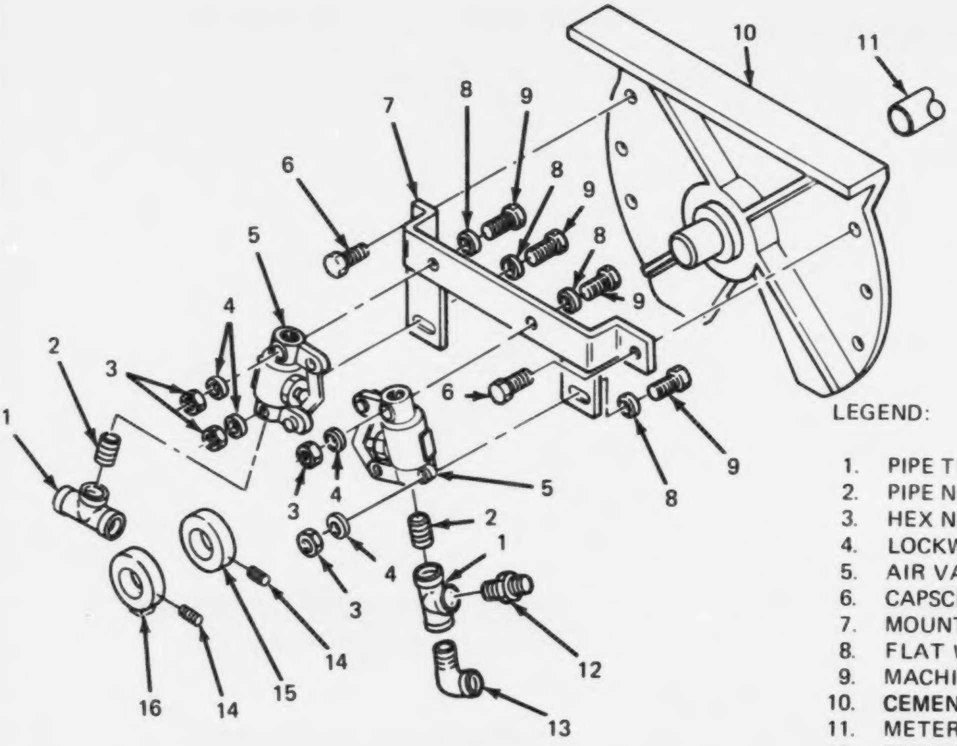
AIR SYSTEM.

11-11. TIMING DEVICE MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS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LEGEND:

1. PIPE TEE (2)
2. PIPE NIPPLE (2)
3. HEX NUT (4)
4. LOCKWASHER (4)
5. AIR VALVE (2)
6. CAPSCREW (2)
7. MOUNTING BRACKET
8. FLAT WASHER (4)
9. MACHINE SCREW (4)
10. CEMENT METER FEEDER
11. METER FEEDER SHAFT
12. PIPE NIPPLE
13. PIPE ELBOW
14. SETSCREW (2)
15. LOCKING COLLAR
16. CAM COLLAR

TA 076427

AIR SYSTEM.

11-12. AIR VALVES AND HOSES MAINTENANCE.

THIS TASK COVERS: (APPROXIMATE TIME REQUIRED FOLLOWS TASK DESCRIPTION.)

a. Removal.	(AR)
b. Inspection.	(AR)
c. Installation.	(AR)
d. Operational Check.	(AR)
	AR Minutes Total.

INITIAL SETUP

APPLICABLE CONFIGURATIONS

M919.

TEST EQUIPMENT

None.

SPECIAL TOOLS

None.

MATERIALS/PARTS (P/N)

Liquid Teflon (Refer to Appendix C).

EQUIPMENT CONDITION PARAGRAPH	CONDITION DESCRIPTION
TM 9-2320-273-10.	Air System Bled.

PERSONNEL REQUIRED

One (MOS-62B20).

REFERENCES (TM)

TM 5-3895-372-10.
TM 5-3895-372-20P.
TM 9-2320-273-10.

TROUBLESHOOTING REFERENCES

Table 11-1.

SPECIAL ENVIRONMENTAL CONDITIONS

Vehicle Parked on Level Ground.

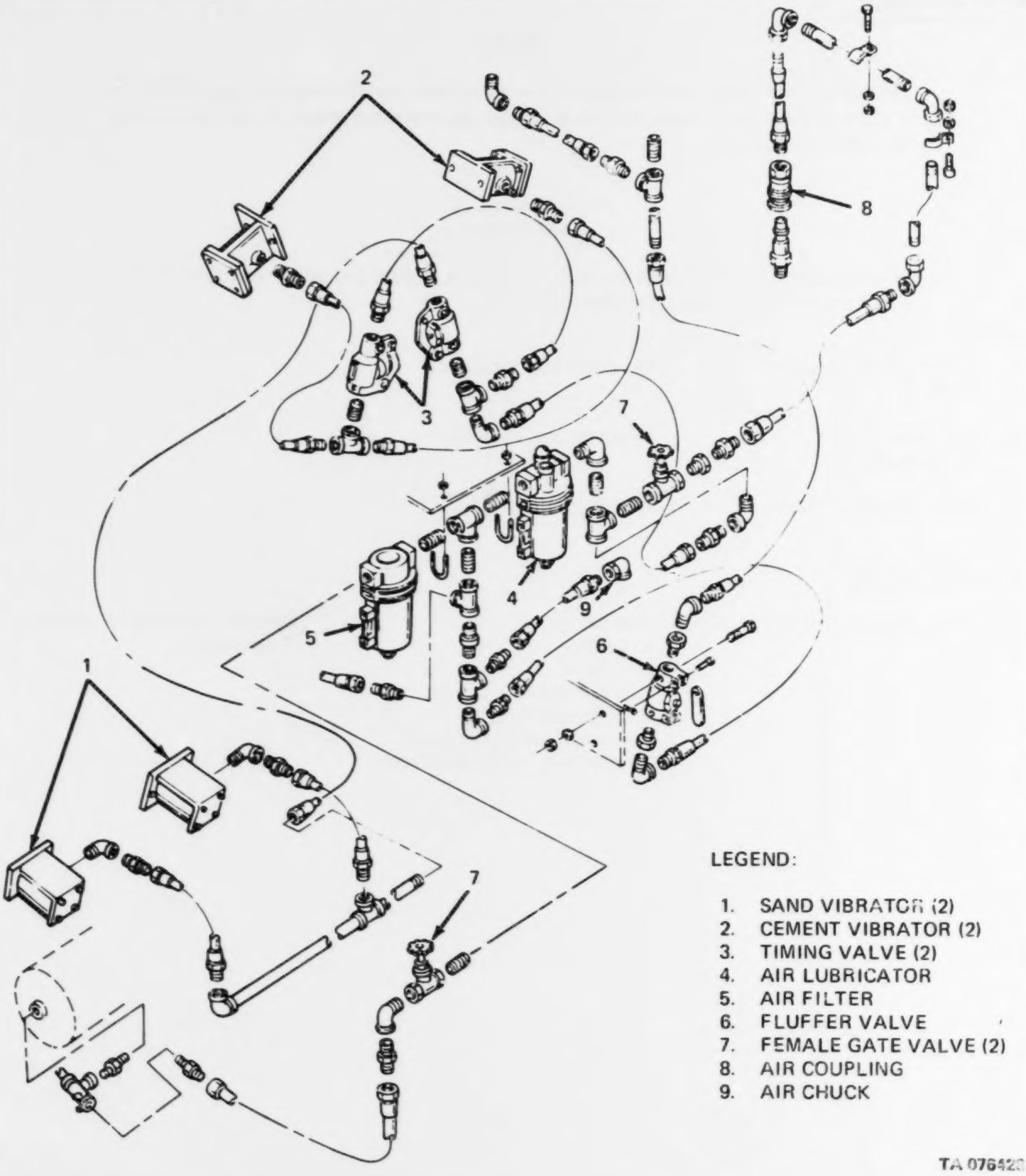
GENERAL SAFETY INSTRUCTIONS

Engine Off.
Transmission in Neutral.
Parking Brake Set.

AIR SYSTEM.

11-12. AIR VALVES AND HOSES MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS



LEGEND:

1. SAND VIBRATOR (2)
2. CEMENT VIBRATOR (2)
3. TIMING VALVE (2)
4. AIR LUBRICATOR
5. AIR FILTER
6. FLUFFER VALVE
7. FEMALE GATE VALVE (2)
8. AIR COUPLING
9. AIR CHUCK

11-12. AIR VALVES AND HOSES MAINTENANCE (Continued).

A. REMOVAL.

NOTE

The layout and main components of the air system are illustrated in para 2-20. To replace any air valve, hose, or fitting, follow general shop practices and techniques as described below.

WARNING

Before beginning maintenance, be sure air gate valve is closed. Check that draincocks have been opened to relieve pressure.

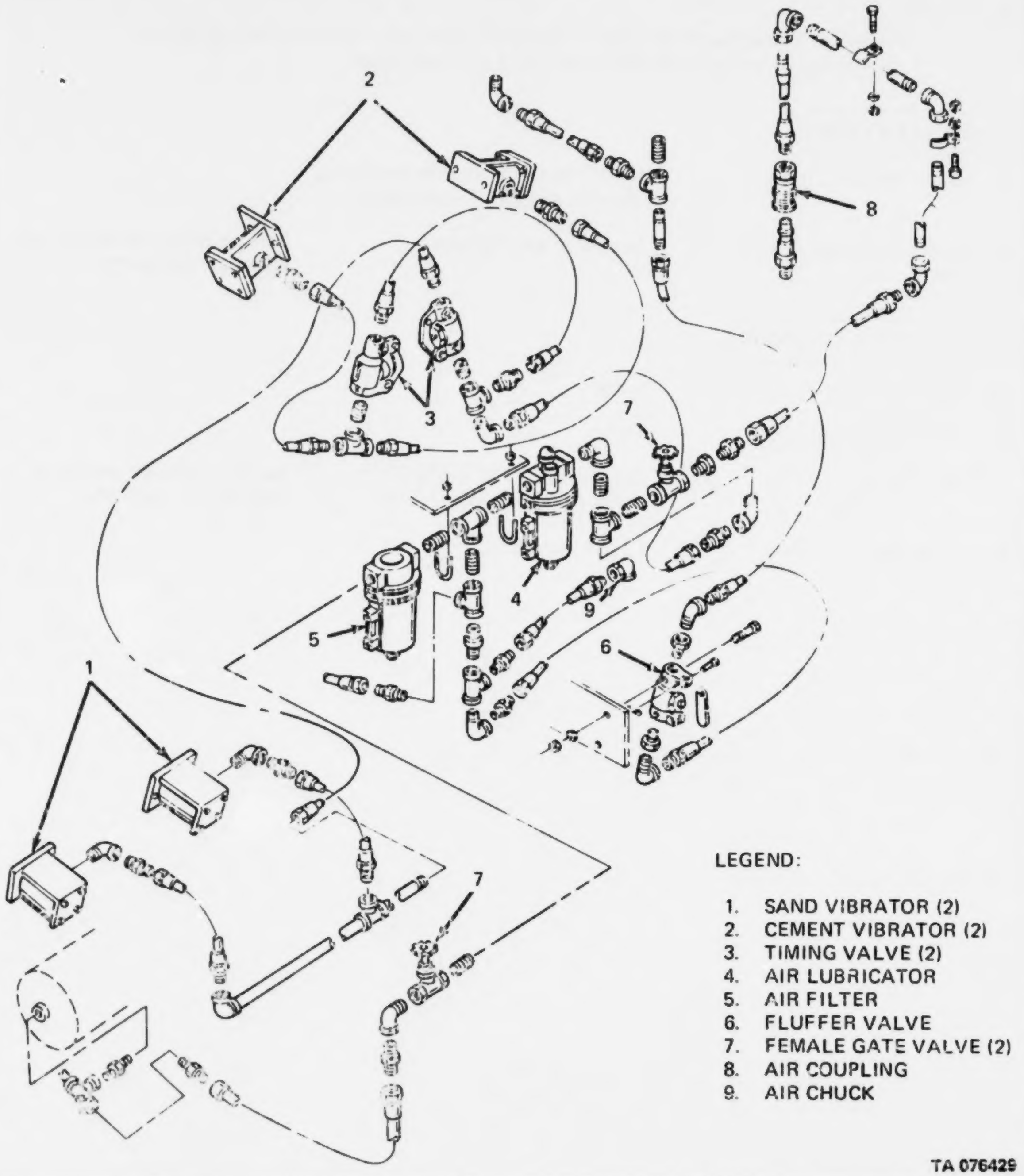
LOCATION/ITEM	ACTION	REMARKS
1. Attached valves and hoses.	Unscrew and remove.	
2. Mounting bolts (if applicable).	Unscrew and remove.	
3. Valve, hose, or fitting.	Remove.	

B. INSPECTION.

LOCATION/ITEM	ACTION	REMARKS
4. Valve, line, or fitting.	Inspect for: a. Leaks. b. Cracks. c. Blockage. d. Damaged fittings. Also inspect fittings on attaching valves and hoses.	Remove blockage or replace, if necessary.

AIR SYSTEM.

11-12. AIR VALVES AND HOSES MAINTENANCE (Continued).		
LOCATION/ITEM	ACTION	REMARKS



LEGEND:

1. SAND VIBRATOR (2)
2. CEMENT VIBRATOR (2)
3. TIMING VALVE (2)
4. AIR LUBRICATOR
5. AIR FILTER
6. FLUFFER VALVE
7. FEMALE GATE VALVE (2)
8. AIR COUPLING
9. AIR CHUCK

TA 076429

11-12. AIR VALVES AND HOSES MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS

NOTE

Valves are directional. Be sure air flows through them in the correct direction. Apply liquid teflon to all threaded joints at installation.

C. INSTALLATION.

LOCATION/ITEM	ACTION	REMARKS
5. Valve, line, or fitting.	Mount in position with mounting bolts or screws (if applicable).	
6. Attaching valves and hoses.	Screw on and tighten.	Be sure hoses are connected to the proper ports.

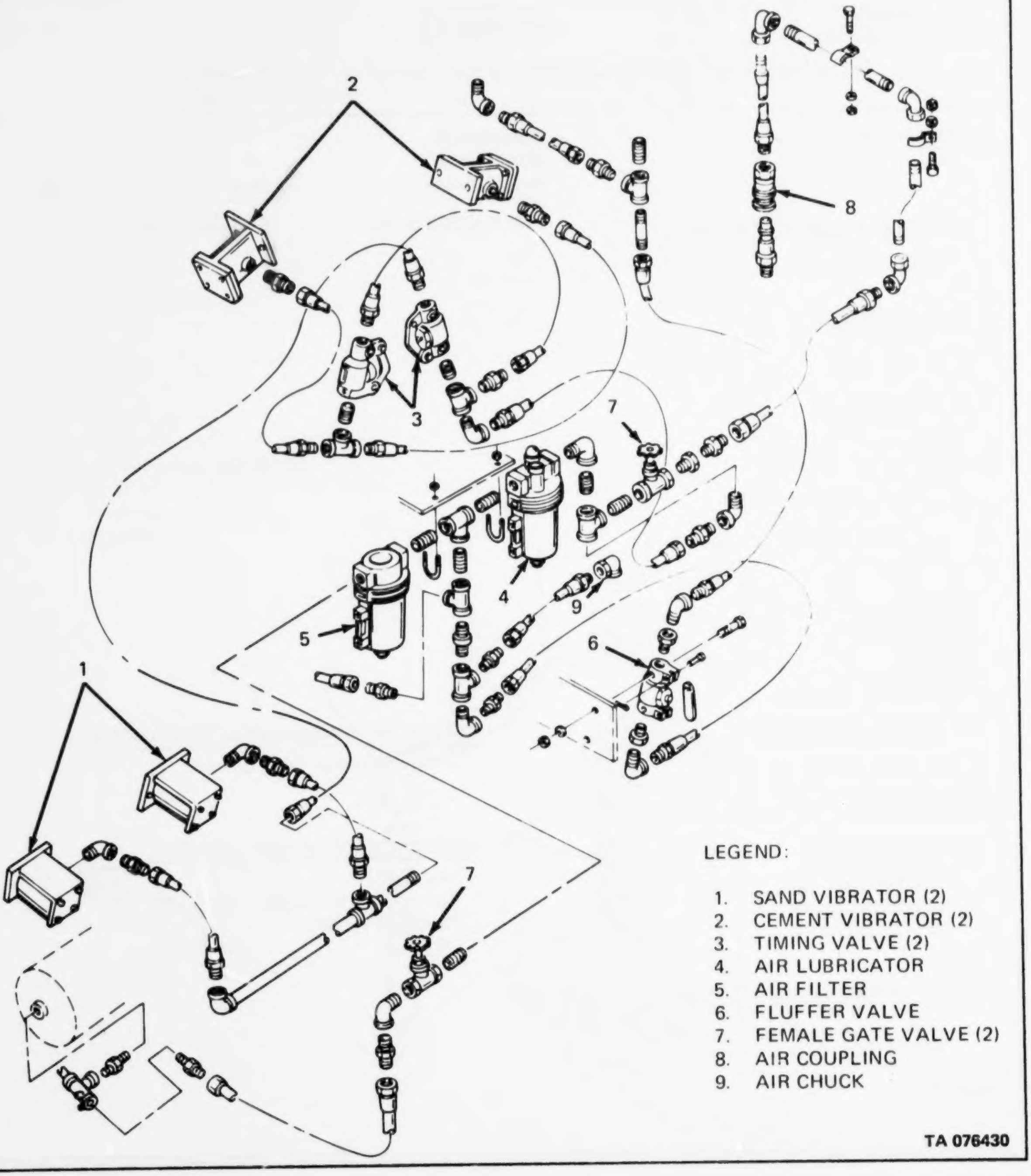
D. OPERATIONAL CHECK.

LOCATION/ITEM	ACTION	REMARKS
7. Draincocks.	Close.	
8. Female gate valve (7).	Open.	
9. Mixer body.	Start up (see TM 9-2320-273-10 and TM 5-3895-372-10).	Be sure chassis pressure is over 65 psi (448 kPa).
10. Valve, line, or fitting.	Check for leaks.	

AIR SYSTEM.

11-12. AIR VALVES AND HOSES MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS



LEGEND:

1. SAND VIBRATOR (2)
2. CEMENT VIBRATOR (2)
3. TIMING VALVE (2)
4. AIR LUBRICATOR
5. AIR FILTER
6. FLUFFER VALVE
7. FEMALE GATE VALVE (2)
8. AIR COUPLING
9. AIR CHUCK

TA 076430

AIR SYSTEM.

11-13. AIR FILTER MAINTENANCE.

THIS TASK COVERS: (APPROXIMATE TIME REQUIRED FOLLOWS TASK DESCRIPTION.)

a. Removal.	(15)
b. Disassembly.	(10)
c. Assembly.	(10)
d. Installation.	(15)
e. Operational Check.	(5)
	55 Minutes Total.

INITIAL SETUP

APPLICABLE CONFIGURATIONS

M919.

TEST EQUIPMENT

None.

SPECIAL TOOLS

None.

MATERIALS/PARTS (P/N)

Liquid Teflon (Refer to Appendix C).

EQUIPMENT CONDITION

EQUIPMENT CONDITION PARAGRAPH	CONDITION DESCRIPTION
TM 9-2320-273-10.	Air System Bled.

PERSONNEL REQUIRED

One (MOS-62320).

REFERENCES (TM)

TM 5-3895-372-10.
TM 5-3895-372-20P.
TM 9-2320-273-10.

TROUBLESHOOTING REFERENCES

Table 11-1.

SPECIAL ENVIRONMENTAL CONDITIONS

Vehicle Parked on Level Ground.

GENERAL SAFETY INSTRUCTIONS

Engine Off.
Transmission in Neutral.
Parking Brake Set.

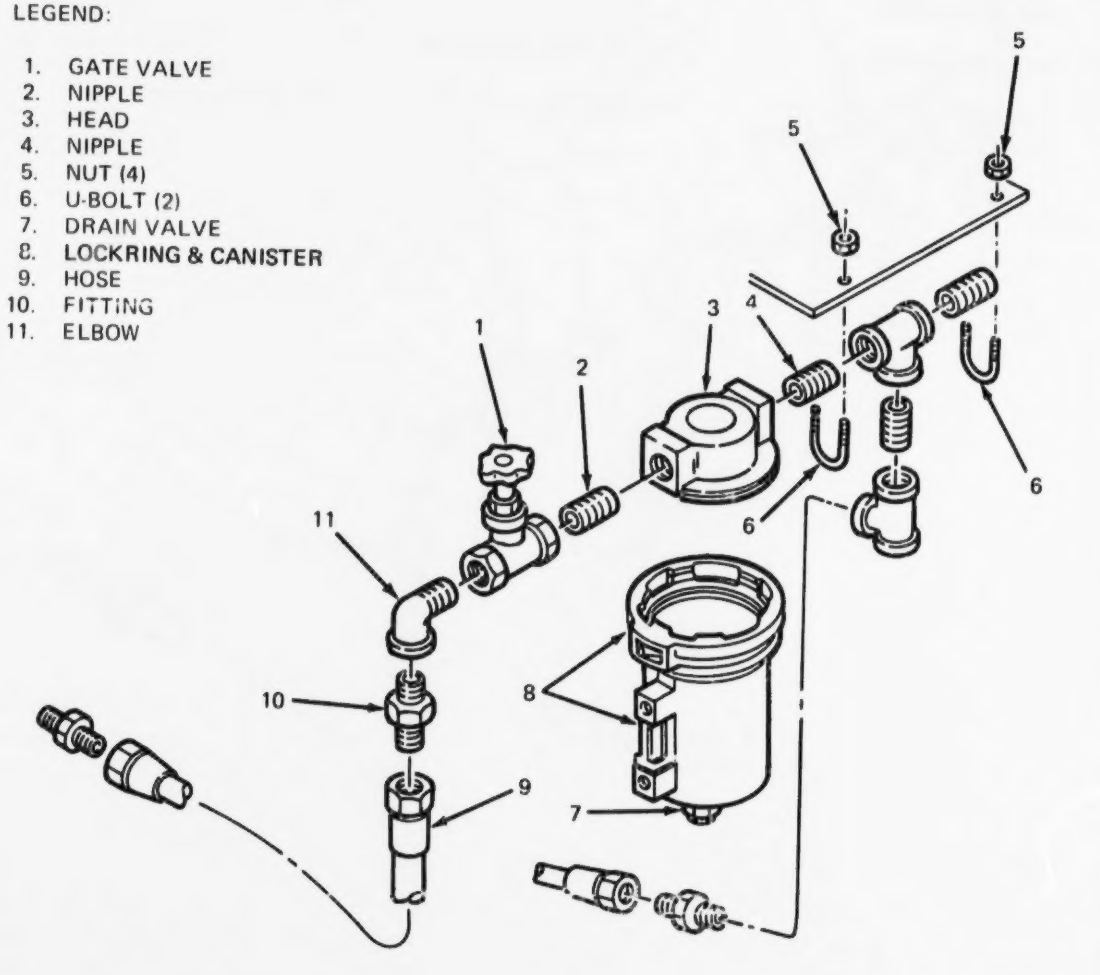
11-13. AIR FILTER MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS

A. REMOVAL.

WARNING

Before removal of air filter, be sure that all drain valves have been opened to relieve air pressure in system.



LEGEND:

1. GATE VALVE
2. NIPPLE
3. HEAD
4. NIPPLE
5. NUT (4)
6. U-BOLT (2)
7. DRAIN VALVE
8. LOCKRING & CANISTER
9. HOSE
10. FITTING
11. ELBOW

TA 076431

AIR SYSTEM.

11-13. AIR FILTER MAINTENANCE (Continued).

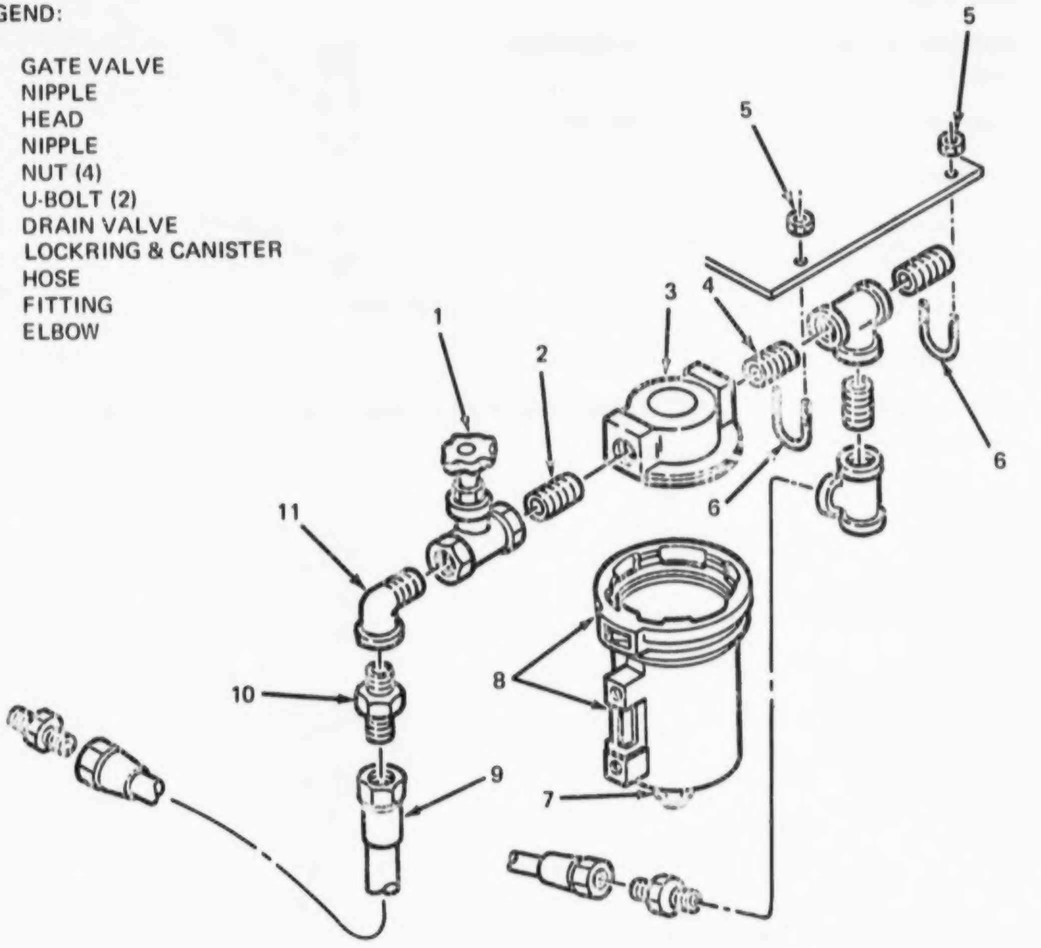
LOCATION/ITEM	ACTION	REMARKS
A. REMOVAL (Continued).		
1. Drain valve (7).	Open.	Drain out water.
2. Air hose (9).	Remove.	
3. Four nuts (5).	Remove.	
4. Two U-bolts (6).	Remove.	
5. Air filter lock ring and canister (8).	Unlock and remove.	
6. Air filter head (3).	Remove from nipple (4).	
7. Nipple (2), gate valve (1), elbow (11), and fitting (10).	Remove from head (3).	

11-13. AIR FILTER MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS

LEGEND:

1. GATE VALVE
2. NIPPLE
3. HEAD
4. NIPPLE
5. NUT (4)
6. U-BOLT (2)
7. DRAIN VALVE
8. LOCKRING & CANISTER
9. HOSE
10. FITTING
11. ELBOW



TA 076432

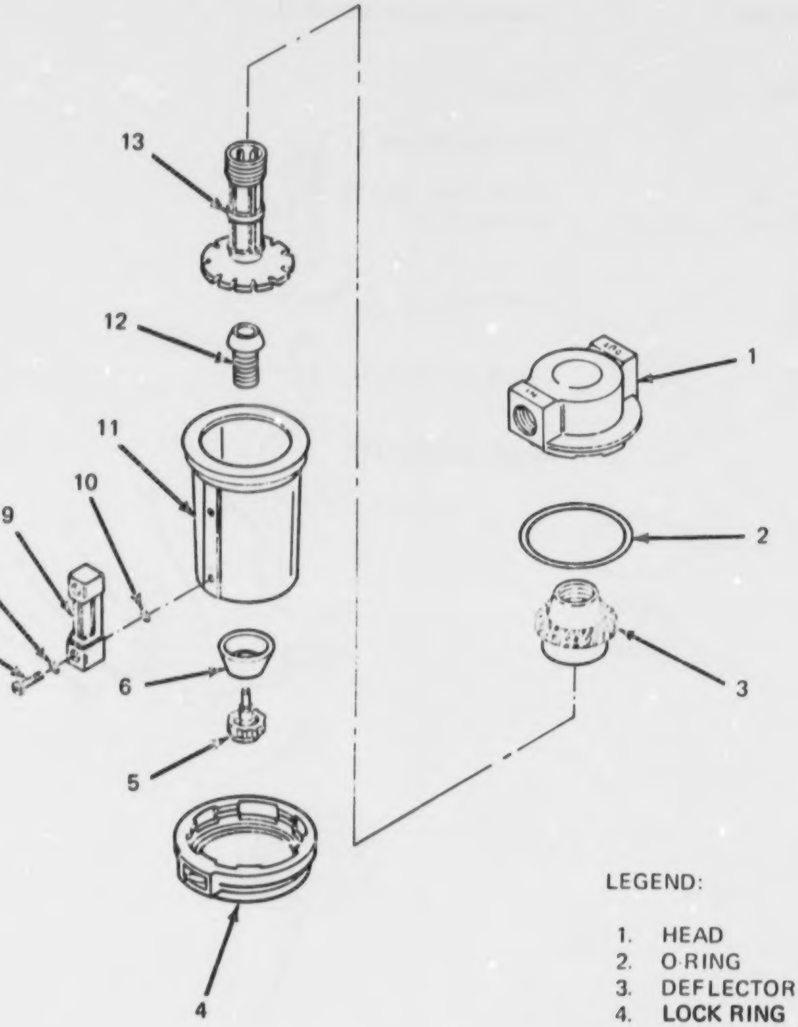
11-13. AIR FILTER MAINTENANCE (Continued).

B. DISASSEMBLY.

LOCATION/ITEM	ACTION	REMARKS
8. O-ring (2).	Remove from head (1).	
9. Deflector (3) and filter (13).	Remove from head (1).	
10. Deflector (3) and filter (13).	Disassemble.	
11. Two screws (7).	Remove.	
12. Level gage (9).	Remove.	
13. Four O-rings (8) and (10).	Remove.	
14. Lock ring (4).	Remove from canister (11).	
15. Drain valve (5).	Remove.	
16. Retainer (12) and cap (6).	Disassemble from canister (11).	

11-13. AIR FILTER MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS



LEGEND:

1. HEAD
2. O-RING
3. DEFLECTOR
4. LOCK RING
5. DRAIN VALVE
6. CAP
7. SCREW (2)
8. O-RING (2)
9. LEVEL GAUGE
10. O-RING (2)
11. CANISTER
12. RETAINER
13. FILTER

TA 076433

AIR SYSTEM.

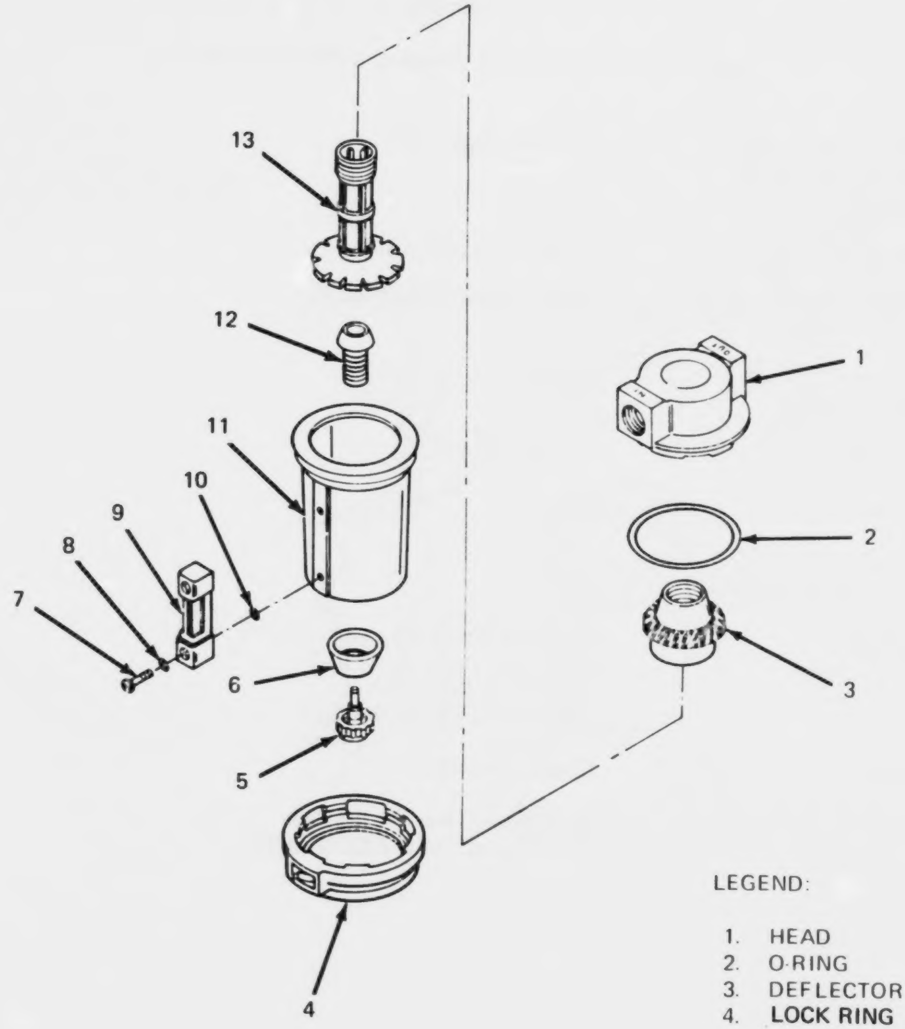
11-13. AIR FILTER MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS
C. ASSEMBLY.		
17. Retainer (12) and cap (6).	Assemble to canister (11).	
18. Drain valve (5).	Install.	
19. Lock ring (4).	Slide on canister (11).	
20. Four O-rings (8) and (10) and two screws (7).	Mount level gage (9) to canister (11).	
21. Deflector (3) and filter (13).	Assemble.	
22. Deflector (3) and filter (13).	Install on head (1).	
23. O-ring (2).	Install on head (1).	

AIR SYSTEM.

11-13. AIR FILTER MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS



LEGEND:

1. HEAD
2. O-RING
3. DEFLECTOR
4. LOCK RING
5. DRAIN VALVE
6. CAP
7. SCREW (2)
8. O-RING (2)
9. LEVEL GAUGE
10. O-RING (2)
11. CANISTER
12. RETAINER
13. FILTER

TA 076434

AIR SYSTEM.

11-13. AIR FILTER MAINTENANCE (Continued).

D. INSTALLATION.

NOTE

Apply liquid teflon on all threaded joints at installation.

LOCATION/ITEM	ACTION	REMARKS
24. Nipple (2), gate valve (1), elbow (11), and fitting (10).	Install in head (3).	
25. Air filter head (3).	Install on nipple (4).	
26. Air filter lock ring and canister (8).	Install on air filter head (3).	
27. Two U-bolts (6) and and four nuts (5).	Install.	
28. Air hose (9).	Install.	
29. Drain valve (7).	Close.	

E. OPERATIONAL CHECK.

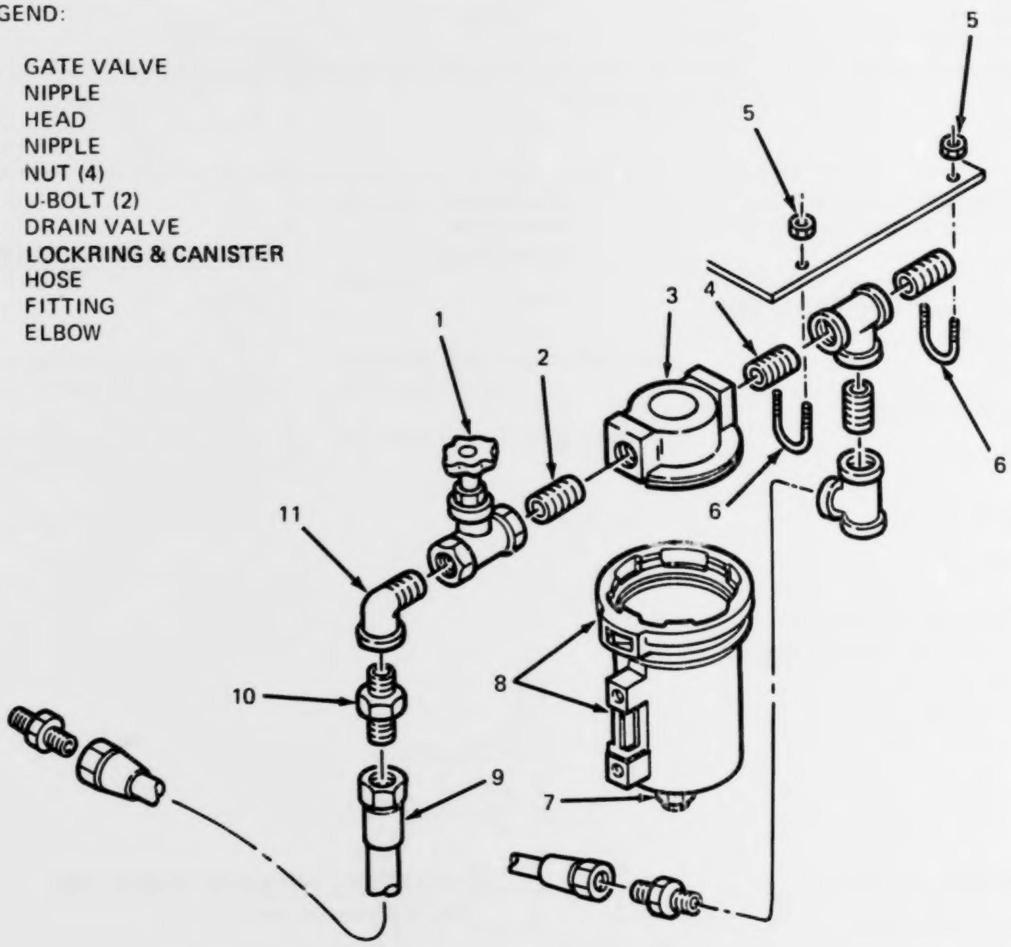
LOCATION/ITEM	ACTION	REMARKS
30. Mixer body.	Close all draincocks and open gate valve. Start up (see TM 5-3895-372-10 and TM 9-2320-273-10).	
31. Air filter.	Check for leaks.	
32. Mixer body.	Shut down (see TM 5-3895-372-10 and TM 9-2320-273-10).	

11-13. AIR FILTER MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS

LEGEND:

1. GATE VALVE
2. NIPPLE
3. HEAD
4. NIPPLE
5. NUT (4)
6. U-BOLT (2)
7. DRAIN VALVE
8. LOCKRING & CANISTER
9. HOSE
10. FITTING
11. ELBOW



TA 076435

AIR SYSTEM.

11-14. FLUFFER VALVE MAINTENANCE.

THIS TASK COVERS: (APPROXIMATE TIME REQUIRED FOLLOWS TASK DESCRIPTION.)

a. Removal.	(10)
b. Inspection.	(5)
c. Installation.	(10)
d. Operational Check.	(5)
	30 Minutes Total.

INITIAL SETUP

APPLICABLE CONFIGURATIONS

M919.

TEST EQUIPMENT

None.

SPECIAL TOOLS

None.

MATERIALS/PARTS (P/N)

Liquid Teflon (Refer to Appendix C).
Masking Tape.
Marking Pen.

EQUIPMENT CONDITION PARAGRAPH	CONDITION DESCRIPTION
None.	None.

PERSONNEL REQUIRED

One (MOS-62B20).

REFERENCES (TM)

TM 5-3895-372-10.
TM 5-3895-372-20P.
TM 9-2320-273-10.

TROUBLESHOOTING REFERENCES

Table 11-1.

SPECIAL ENVIRONMENTAL CONDITIONS

Vehicle Parked on Level Ground.

GENERAL SAFETY INSTRUCTIONS

Engine Off.
Transmission in Neutral.
Parking Brake Set.

AIR SYSTEM.

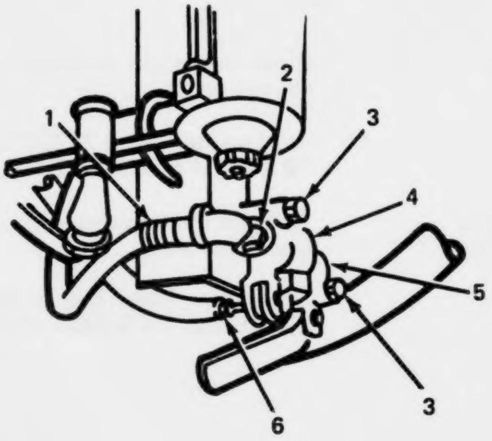
11-14. FLUFFER VALVE MAINTENANCE (Continued).

NOTE

Before beginning service, close air gate valve and open air draincocks to relieve air pressure.

A. REMOVAL.

LOCATION/ITEM	ACTION	REMARKS
1. Air line (1).	Remove.	Remove swivel end first. Tag air line (1) for installation.
2. Air line (6).	Remove.	Remove swivel end first. Tag air line (6) for installation.
3. Two bolts, nuts, and lockwashers (3).	Remove. Remove fluffer valve (4) from vehicle.	
4. Two elbows (2) and adapters (5).	Remove from fluffer valve (4).	



LEGEND:

1. AIR LINE
2. ELBOW (2)
3. BOLT, NUT, AND LOCKWASHER (2)
4. FLUFFER VALVE
5. ADAPTER (2)
6. AIR LINE

TA 076436

AIR SYSTEM.

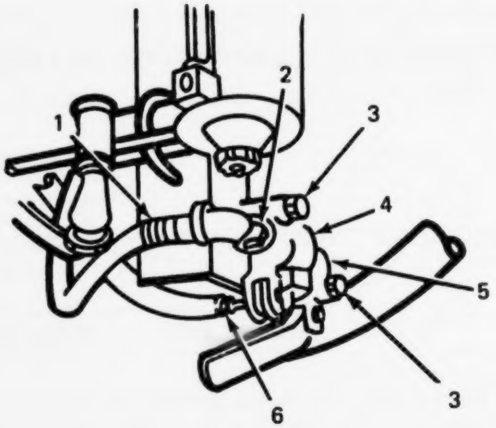
11-14. FLUFFER VALVE MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS
B. INSPECTION.		
5. Air lines (1) and (6).	Inspect for damaged lines or fittings.	Replace, if necessary.
C. INSTALLATION.		
	NOTE Apply liquid teflon to all threaded joints at installation.	
6. Two elbows (2) and adapters (5).	Install in fluffer valve (4).	
7. Two bolts, nuts, and lockwashers (3).	Mount fluffer valve (4) and tighten.	Check before mounting valve. Embossed arrow on valve gives direction of air flow.
8. Air line (6).	Install and tighten.	Install swivel end last.
9. Air line (1).	Install and tighten.	Install swivel end last.
D. OPERATIONAL CHECK.		
10. Draincocks and air gate valve.	Close draincocks and open air gate valve.	
11. Mixer body.	Start up (see TM 9-2320-273-10 and TM 5-3895-372-10).	Chassis pressure should be at least 65 psi (448 kPa).
12. Fluffer valve (4) and air lines (1) and (6).	Activate fluffer valve (4). Check for leaks.	
13. Mixer body.	Shut down. (See TM 9-2320-273-10 and TM 5-3895-372-10).	

AIR SYSTEM.

11-14. FLUFFER VALVE MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS



LEGEND:

1. AIR LINE
2. ELBOW (2)
3. BOLT, NUT, AND LOCKWASHER (2)
4. FLUFFER VALVE
5. ADAPTER (2)
6. AIR LINE

TA 076437

CHAPTER 12

ELECTRIC WINCH

12-1. OVERVIEW.

This chapter provides you with the following information related to electric winch maintenance:

- *a.* All required special tools and equipment.
- *b.* Troubleshooting procedures.
- *c.* Maintenance procedures.

Section I REPAIR PARTS, SPECIAL TOOLS, TMDE, AND SUPPORT EQUIPMENT

12-2. COMMON TOOLS AND EQUIPMENT.

For authorized common tools and equipment, refer to the Modified Table of Organization and Equipment (MTOE) applicable to your unit.

12-3. SPECIAL TOOLS, TMDE, AND SUPPORT EQUIPMENT.

Special tools, TMDE, and support equipment for electric winch maintenance are limited to jumper cables. (Refer to Organizational Maintenance RPSTL, TM 5-3895-372-20P, for tool description and illustration.)

12-4. SPARES AND REPAIR PARTS.

Spares and repair parts are listed and illustrated in the Repair Parts and Special Tools List covering Organizational Maintenance for this equipment (TM 5-3895-372-20P).

Section II TROUBLESHOOTING

12-5. INTRODUCTION.

Before beginning tests on the winch circuits, make a general inspection. Check for:

- *a.* Loose connections.
- *b.* Loose ground wire.
- *c.* Frayed, broken, or corroded wiring.

12-5. INTRODUCTION (Continued).

Often, tightening a loose connection or replacing a frayed wire will solve your problem.

Troubleshooting procedures for the electric winch are given in table 12-1. It is arranged by malfunctions, in the following order:

a. Trough will not raise or lower (Malfunction No. 1).

b. Trough will not raise (Malfunction No. 2).

c. Trough will not lower (Malfunction No. 3).

NOTE

The electric winch will not operate if the truck battery is dead. In this case you must troubleshoot the chassis electrical system. Refer to TM 9-2320-273-20.

Table 12-1. Electric Winch Troubleshooting Procedures.

Malf	Step	Instruction	Indication	Yes	No	Remarks
1		**Trough Will Not Raise Or Lower**				
	1	Connect one end of jumper cable to LOWER terminal of the OUT solenoid (fig. 12-1). Briefly ground the other end of the cable to the frame.	Trough lowers.	Replace control box.	Replace winch assembly.	
2		**Trough Will Not Raise**				
	1	Lower trough. Press JOG and RAISE buttons simultaneously.	Trough is raised.	Replace limit switch.	Go to step 2.	
	2	Connect one end of jumper cable to RAISE terminal of the IN solenoid (fig. 12-1). Briefly ground the other end of the cable to the frame.	Trough is raised.	Replace control box.	Replace IN solenoid.	
3		**Trough Will Not Lower**				
	1	Connect one end of jumper cable to LOWER terminal of the OUT solenoid (fig. 12-1). Briefly ground the other end of the cable to the frame.	Trough lowers.	Replace control box.	Replace OUT solenoid.	

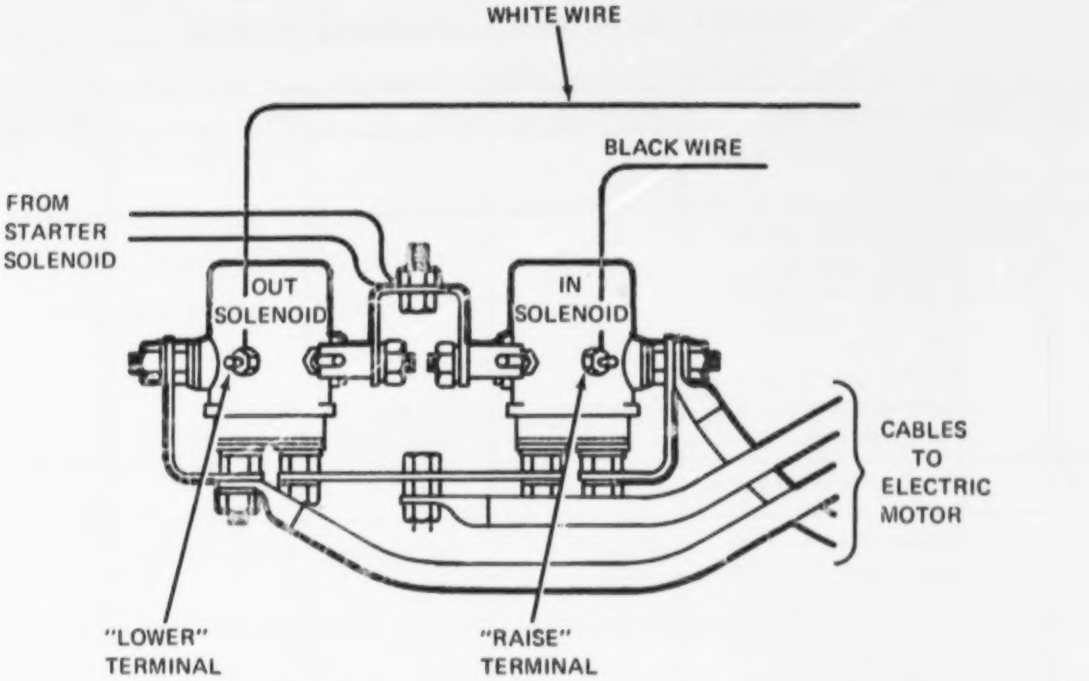

WHITE WIRE
BLACK WIRE
FROM STARTER SOLENOID
OUT SOLENOID
IN SOLENOID
CABLES TO ELECTRIC MOTOR
"LOWER" TERMINAL
"RAISE" TERMINAL
TA 076438

Figure 12-1. Winch Solenoids.

Section III MAINTENANCE PROCEDURES

12-6. INTRODUCTION.

This section provides you with Organizational level maintenance procedures for the mixer body electric winch. Paragraph 12-7 summarizes the maintenance tasks. Paragraphs 12-8 thru 12-11 contain detailed instructions for each task.

NOTE

Before beginning any maintenance procedures in this chapter, unbolt and remove the winch guard.

12-7. ELECTRIC WINCH MAINTENANCE TASK SUMMARY.

INITIAL SETUP

APPLICABLE CONFIGURATIONS

M919.

EQUIPMENT CONDITION PARAGRAPH	CONDITION DESCRIPTION
12-8A.	Cable Removed.
12-10A.	Winch Assembly Removed.

TEST EQUIPMENT

None.

SPECIAL TOOLS

None.

MATERIALS/PARTS (P/N)

Oil (Refer to Appendix C).

SPECIAL ENVIRONMENTAL CONDITIONS

Vehicle Parked on Level Ground.

PERSONNEL REQUIRED

One (MOS-62B20).

REFERENCES (TM)

LO 5-3895-372-12.

REFERENCES (TROUBLESHOOTING)

Table 12-1.

GENERAL SAFETY INSTRUCTIONS

Engine OFF.
Transmission in Neutral.
Park Brake Set.

LIST OF TASKS

TASK NO.	TASK	TASK REF	TROUBLESHOOTING REF (TABLE)
1.	Winch Cable Maintenance:	12-8	12-1
	A. Removal.	12-8A	
	B. Cleaning and Lubrication.	12-8B	
	C. Installation.	12-8C	
2.	Winch Assembly Service:	12-9	12-1
	A. Checking Oil Level.	12-9A	
	B. Checking Wire Connections.	12-9B	

12-7. ELECTRIC WINCH MAINTENANCE TASK SUMMARY (Continued).

LIST OF TASKS

TASK NO.	TASK	TASK REF.	TROUBLESHOOTING REF. (TABLE)
3.	Winch Assembly Maintenance:	12-10	12-1
	A. Removal.	12-10A	
	B. Installation.	12-10B	
	C. Operational Check.	12-10C	
4.	Motor and Gear Box Assembly Maintenance:	12-11	12-1
	A. Removal.	12-11A	
	B. Installation.	12-11B	

ELECTRIC WINCH.

12-8. WINCH CABLE MAINTENANCE.

THIS TASK COVERS: (APPROXIMATE TIME REQUIRED FOLLOWS TASK DESCRIPTION.)

a. Removal.	(10)
b. Cleaning and Lubrication.	(20)
c. Installation.	(15)
	45 Minutes Total.

INITIAL SETUP

APPLICABLE CONFIGURATIONS

M919.

TEST EQUIPMENT

None.

SPECIAL TOOLS

None.

MATERIALS/PARTS (P/N)

CW (Refer to Appendix C).

EQUIPMENT CONDITION PARAGRAPH	CONDITION DESCRIPTION
None.	None.

PERSONNEL REQUIRED

One (MOS-62B20).

REFERENCES (TM)

LO 5-3895-372-12.
TM 5-3895-372-10.
TM 5-3895-372-20P.
TM 9-2320-273-10.

TROUBLESHOOTING REFERENCES

Table 12-1.

SPECIAL ENVIRONMENTAL CONDITIONS

Vehicle Parked on Level Ground.

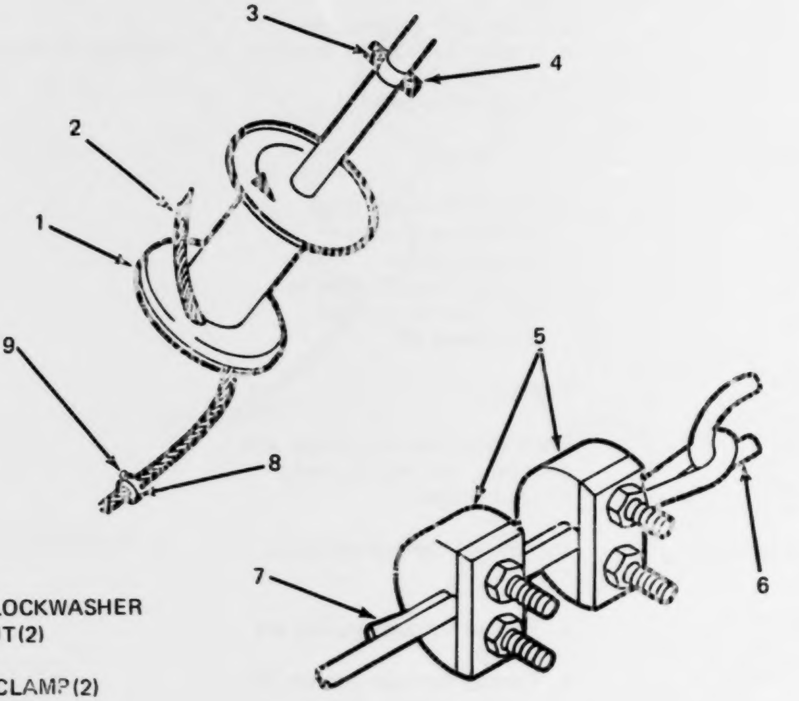
GENERAL SAFETY INSTRUCTIONS

Engine Off.
Transmission in Neutral.
Parking Brake Set.

ELECTRIC WINCH.

12-8. WINCH CABLE MAINTENANCE (Continued)

LOCATION/ITEM	ACTION	REMARKS
A. REMOVAL.		
1. Mixing trough.	Lower. Support trough end so that cable is slack.	
2. Two cable clamps (5).	Loosen the four nuts on the clamps.	
3. Cable end (7).	Pull free of clamps (5) and anchor (6).	



LEGEND:

1. REEL
2. CABLE
3. BOLT, LOCKWASHER AND NUT(2)
4. CLAMP
5. CABLE CLAMP(2)
6. ANCHOR
7. CABLE END (2)
8. STOP SLEEVE
9. SETSCREW

TA 076439

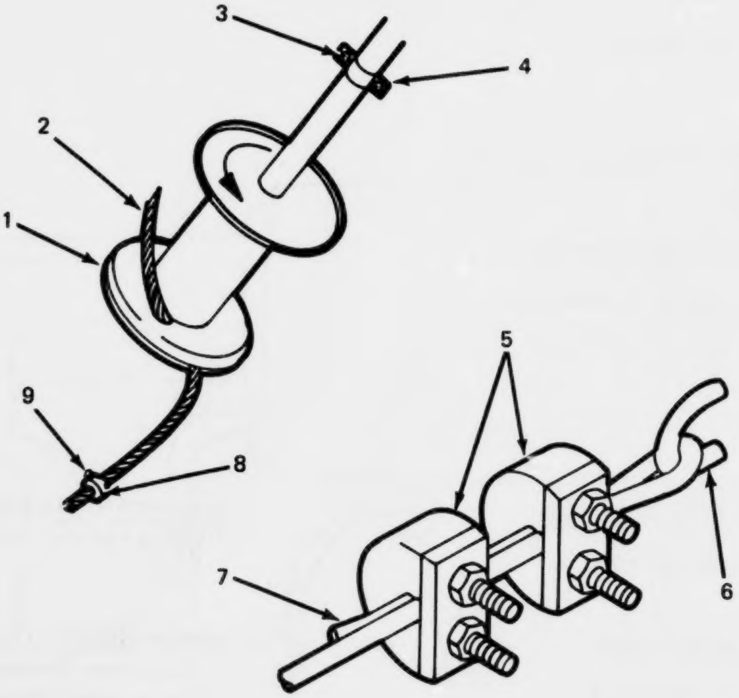
ELECTRIC WINCH.

12-8. WINCH CABLE MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS
A. REMOVAL (Continued).		
4. Winch control box.	Press the LOWER button until cable is completely paid out.	
5. Two nuts, lockwashers, and bolts (3).	Remove.	
6. Clamp (4).	Remove.	
7. Setscrew (9).	Loosen.	
8. Cable (2).	Pull out of stop sleeve (8) and reel (1). Remove the cable.	
B. CLEANING AND LUBRICATION.		
9. Cable (2).	a. Wipe with a damp rag.	
	b. Inspect for rust or fraying.	Replace if necessary.
	c. Oil with CW.	
	d. Wipe off excess oil.	
C. INSTALLATION.		
10. Cable (2).	a. Thread through three pulleys on trough support frame. b. Thread through hole in reel (1) and through stopsleeve (8).	
11. Setscrew (9).	Tighten.	
12. Clamp (4).	Slide spool toward motor and gear box, and install clamp around shaft.	
13. Two nuts, lockwashers, and bolts (3).	Install and tighten securely.	
14. Cable end (7).	a. Thread through pulley on trough. b. Thread through anchor (6) and back through two clamps (5).	

12-8. WINCH CABLE MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS
C. INSTALLATION (Continued).		
15. Two clamps (5).	Tighten four nuts.	
16. Winch control box.	Push RAISE button. Wind cable onto reel.	



LEGEND:

1. REEL
2. CABLE
3. BOLT, LOCKWASHER AND NUT (2)
4. CLAMP
5. CABLE CLAMP(2)
6. ANCHOR
7. CABLE END (2)
8. STOP SLEEVE
9. SETSCREW

TA 076440

ELECTRIC WINCH.

12-9. WINCH ASSEMBLY SERVICE.

THIS TASK COVERS: (APPROXIMATE TIME REQUIRED FOLLOWS TASK DESCRIPTION.)

a. Checking Oil Level.	(10)
b. Checking Wire Connections.	(5)
	15 Minutes Total.

INITIAL SETUP

APPLICABLE CONFIGURATIONS

M919.

TEST EQUIPMENT

None.

SPECIAL TOOLS

None.

MATERIALS/PARTS (P/N)

Oil (Refer to Appendix C).

EQUIPMENT CONDITION PARAGRAPH	CONDITION DESCRIPTION
None.	None.

PERSONNEL REQUIRED

One (MOS-62B20).

REFERENCES (TM)

LO 5-3895-372-12.
TM 5-3895-372-10.
TM 5-3895-372-20P.
TM 9-2320-273-10.

TROUBLESHOOTING REFERENCES

Table 12-1.

SPECIAL ENVIRONMENTAL CONDITIONS

Vehicle Parked on Level Ground.

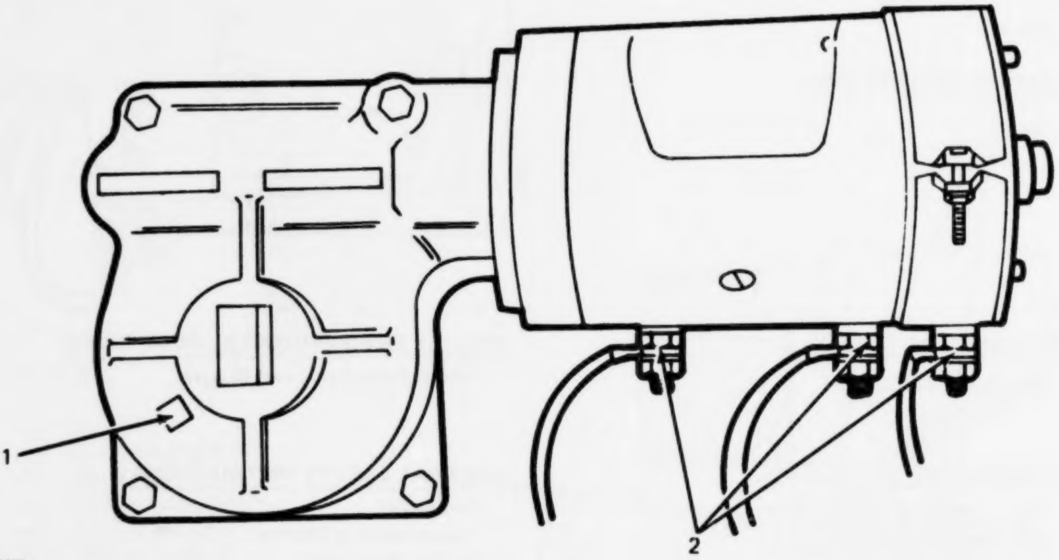
GENERAL SAFETY INSTRUCTIONS

Engine Off.
Transmission in Neutral.
Parking Brake Set.

ELECTRIC WINCH.

12-9. WINCH ASSEMBLY SERVICE (Continued).

LOCATION/ITEM	ACTION	REMARKS
A. CHECKING OIL LEVEL.		
1. Oil level plug (1).	a. Remove.	
	b. Check that oil is up to level of plug.	Add oil through plug opening if necessary.
	c. Screw in and tighten.	
B. CHECKING WIRE CONNECTIONS.		
2. Three stud terminals (2).	Check for:	
	a. Corroded wires.	Clean if necessary.
	b. Loose connections.	Tighten securely. Replace cable if necessary.
	c. Bare or worn insulation.	



LEGEND:

1. OIL LEVEL PLUG
2. STUD TERMINAL (3)

TA 076441

ELECTRIC WINCH.

12-10. WINCH ASSEMBLY MAINTENANCE.

THIS TASK COVERS: (APPROXIMATE TIME REQUIRED FOLLOWS TASK DESCRIPTION.)

a. Removal.	(15)
b. Installation.	(20)
c. Operational Check.	(5)
	40 Minutes Total.

INITIAL SETUP

EQUIPMENT CONDITION PARAGRAPH	CONDITION DESCRIPTION
12-8A.	Cable Removed.

APPLICABLE CONFIGURATIONS

M919.

TEST EQUIPMENT

None.

SPECIAL TOOLS

None.

MATERIALS/PARTS (P/N)

None.

PERSONNEL REQUIRED

One (MOS-62B20).

REFERENCES (TM)

TM 5-3895-372-10.
TM 5-3895-372-20P.
TM 9-2320-273-10.

TROUBLESHOOTING REFERENCES

Table 12-1.

SPECIAL ENVIRONMENTAL CONDITIONS

Vehicle Parked on Level Ground.

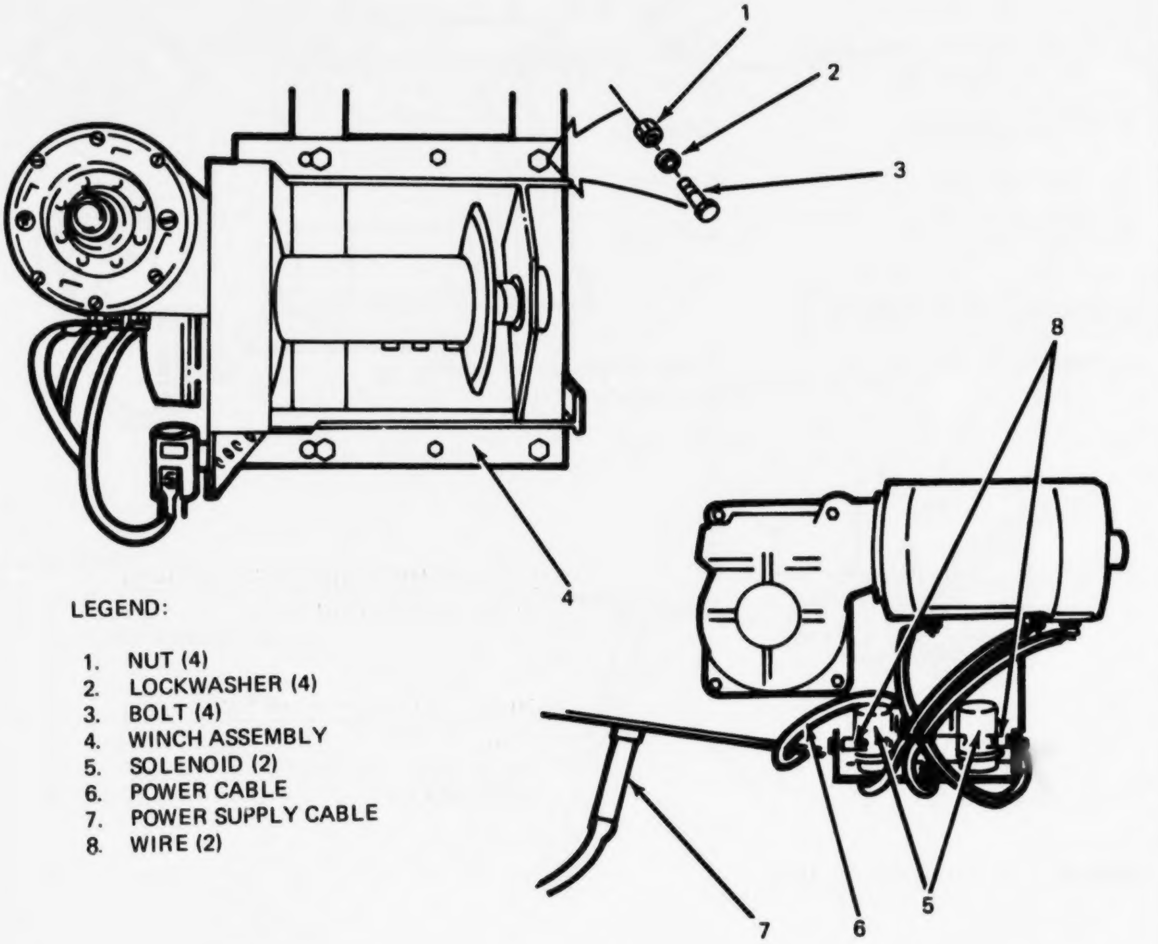
GENERAL SAFETY INSTRUCTIONS

Engine Off.
Transmission in Neutral.
Parking Brake Set.

12-10. WINCH ASSEMBLY MAINTENANCE (Continued).

A. REMOVAL.

LOCATION/ITEM	ACTION	REMARKS
1. Power supply cable (7).	Disconnect.	Pull off terminal.
2. Two wires (8).	Disconnect from solenoids (5).	Tag for location.



LEGEND:

1. NUT (4)
2. LOCKWASHER (4)
3. BOLT (4)
4. WINCH ASSEMBLY
5. SOLENOID (2)
6. POWER CABLE
7. POWER SUPPLY CABLE
8. WIRE (2)

TA 076442

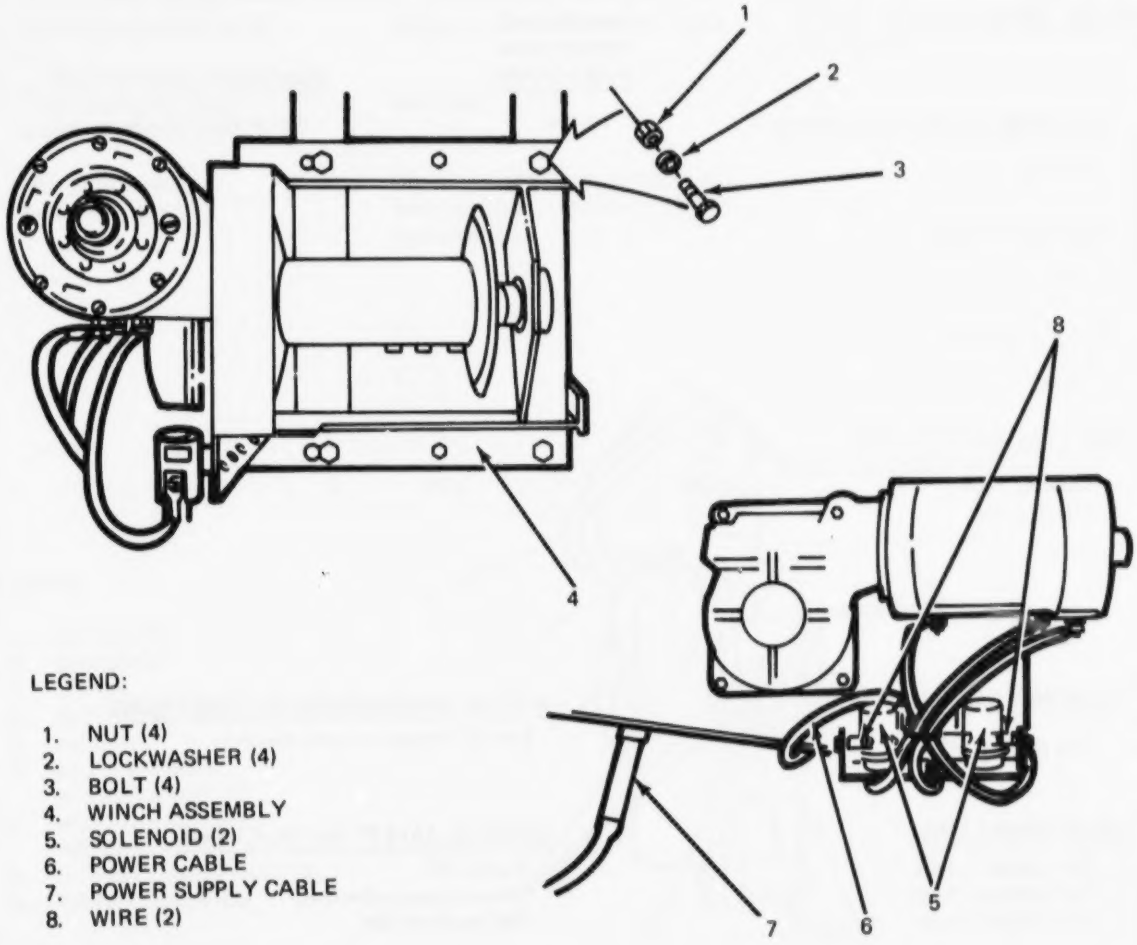
12-10. WINCH ASSEMBLY MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS
A. REMOVAL (Continued).		
3. Power cable (6).	Disconnect.	
4. Four nuts (1), lockwashers (2), and bolts (3).	Remove. Remove motor, gear box, and reel as a unit.	
B. INSTALLATION.		
5. Winch assembly (4).	Position to concrete mobile body.	
6. Four nuts (1), lockwashers (2), and bolts (3).	Install and tighten.	
7. Power cable (6).	Connect.	
8. Two wires (8).	Connect.	
9. Power supply (7).	Connect.	
C. OPERATIONAL CHECK.		
10. Winch.	Check operation by raising and lowering trough.	

ELECTRIC WINCH.

12-10. WINCH ASSEMBLY MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS



LEGEND:

1. NUT (4)
2. LOCKWASHER (4)
3. BOLT (4)
4. WINCH ASSEMBLY
5. SOLENOID (2)
6. POWER CABLE
7. POWER SUPPLY CABLE
8. WIRE (2)

TA 076443

ELECTRIC WINCH.

12-11. MOTOR AND GEAR BOX ASSEMBLY MAINTENANCE.

THIS TASK COVERS: (APPROXIMATE TIME REQUIRED FOLLOWS TASK DESCRIPTION.)

a. Removal.	(15)
b. Installation.	(15)
	30 Minutes Total.

INITIAL SETUP

APPLICABLE CONFIGURATIONS

M919.

TEST EQUIPMENT

None.

SPECIAL TOOLS

None.

MATERIALS/PARTS (P/N)

Masking Tape.
Marking Pen.

EQUIPMENT CONDITION PARAGRAPH	CONDITION DESCRIPTION
12-10A.	Winch Assembly Removed.

PERSONNEL REQUIRED

One (MOS-62B20).

REFERENCES (TM)

TM 5-3895-372-10.
TM 5-3895-372-20P.
TM 9-2320-273-10.

TROUBLESHOOTING REFERENCES

Table 12-1.

SPECIAL ENVIRONMENTAL CONDITIONS

Vehicle Parked on Level Ground.

GENERAL SAFETY INSTRUCTIONS

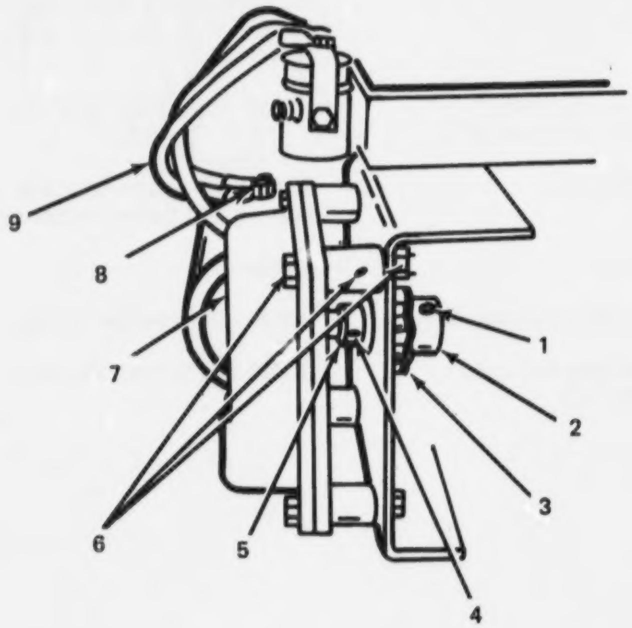
Engine Off.
Transmission in Neutral.
Parking Brake Set.

12-11. MOTOR AND GEAR BOX ASSEMBLY MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS
A. REMOVAL.		
1. Setscrew (1).	Loosen.	
2. Three nuts and lockwashers (8).	Remove.	
3. Three power cables (9).	Remove from motor terminals.	Tag for location for ease of installation.
4. Four bolts, washers, spacers, and nuts (6).	Remove.	
5. Motor and gear box assembly (7).	Simultaneously separate motor and gear box assembly (7) and sprocket (2).	

LEGEND:

1. SETSCREW
2. SPROCKET
3. CHAIN
4. SETSCREW
5. BUSHING
6. BOLT, WASHER, SPACER & NUT (4)
7. MOTOR & GEARBOX ASSEMBLY
8. NUT & LOCKWASHER (3)
9. POWER CABLE (3)



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ELECTRIC WINCH.

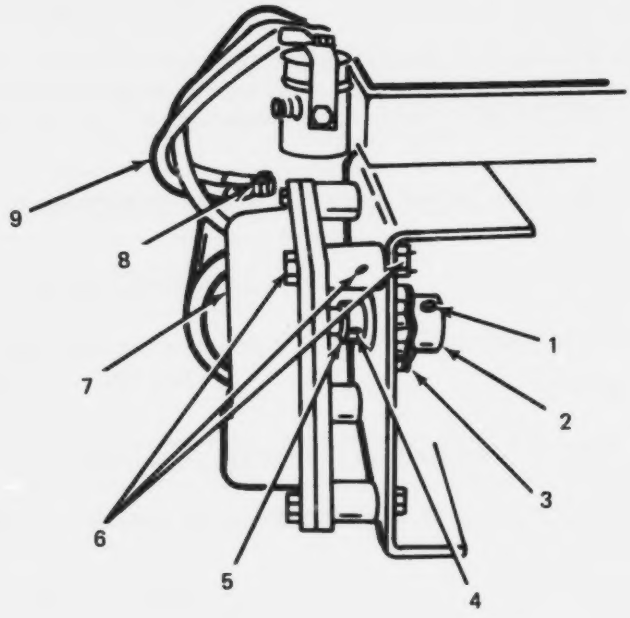
12-11. MOTOR AND GEAR BOX ASSEMBLY MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS
A. REMOVAL (Continued).		
6. Woodruff key.	Remove from gear box shaft.	
7. Motor and gear box assembly (7).	Remove from mounting frame.	
8. Setscrew (4).	Loosen.	
9. Bushing (5).	Remove.	
B. INSTALLATION.		
10. Bushing (5).	Install on gear box shaft.	Do not tighten setscrew.
11. Motor and gear box assembly (7).	Install in frame.	
12. Woodruff key.	Install in gear box shaft.	
13. Motor and gear box assembly (7).	Simultaneously slide sprocket (2) and chain (3) onto gear box shaft.	
14. Four bolts, washers, spacers, and nuts (6).	Install and tighten securely.	
15. Bushing (5).	Slide bushing against frame bearing and tighten setscrew (4).	
16. Setscrew (1).	Tighten.	
17. Three power cables (9).	Install on motor terminals.	
18. Three nuts and lock-washers (8).	Install and tighten securely.	

ELECTRIC WINCH.

12-11. MOTOR AND GEAR BOX ASSEMBLY MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS



LEGEND:

1. SETSCREW
2. SPROCKET
3. CHAIN
4. SETSCREW
5. BUSHING
6. BOLT, WASHER, SPACER & NUT (4)
7. MOTOR & GEARBOX ASSEMBLY
8. NUT & LOCKWASHER (3)
9. POWER CABLE

TA 076445

CHAPTER 13

LAMPS AND WIRING

13-1. OVERVIEW.

This chapter provides you with the following information related to lamps maintenance:

a. All required special tools and equipment.

b. Troubleshooting procedures.

c. Maintenance procedure. The maintenance procedures in this chapter apply to the bulb replacement and assembly replacement of the mixer body clearance and marker lamps. For the maintenance procedures of the tail lamps and blackout lamps, refer to TM 9-2320-273-20.

Section I REPAIR PARTS, SPECIAL TOOLS, TMDE, AND SUPPORT EQUIPMENT

13-2. COMMON TOOLS AND EQUIPMENT.

For authorized common tools and equipment, refer to the Modified Table of Organization and Equipment (MTOE) applicable to your unit.

13-3. SPECIAL TOOLS, TMDE, AND SUPPORT EQUIPMENT.

No special tools, TMDE, or support equipment are required for lamps maintenance.

13-4. SPARES AND REPAIR PARTS.

Spares and repair parts are listed and illustrated in the Repair Parts and Special Tools list covering Organizational Maintenance for this equipment (TM 5-3895-372-20P).

Section II TROUBLESHOOTING

13-5. INTRODUCTION.

No special troubleshooting procedures are required for the lighting system of the mixer body. If the lamps malfunction, use the general procedures below.

13-6. GENERAL PROCEDURES.

a. If all of the mixer body lamps fail to function, the problem may be in the chassis electrical system. Check whether the chassis marker and clearance lamps are functioning. If they are not, refer to TM 9-2320-273-20 for troubleshooting procedures. If they are, check that the mixer body lamps are securely plugged in.

b. All other malfunctions in the mixer body lighting system may be traced to one of the following causes:

(1) Burnt-out bulbs.

(2) Loose connections.

(3) Frayed, broken, or corroded wires.

Replace bulbs, tighten connections, and repair wiring, as necessary.

Section III MAINTENANCE PROCEDURES

13-7. INTRODUCTION.

This section provides you with Organizational Level maintenance procedures for the lamps and wiring system of the mixer body. Paragraph 13-8 summarizes the maintenance tasks. Paragraphs 13-9 thru 13-11 contain detailed instructions for each task.

13-8. LAMPS AND WIRING MAINTENANCE TASK SUMMARY.

INITIAL SETUP

APPLICABLE CONFIGURATIONS	EQUIPMENT CONDITION PARAGRAPH	CONDITION DESCRIPTION
M919.	None.	None.

TEST EQUIPMENT

None.

SPECIAL TOOLS

None.

MATERIALS/PARTS (P/N)

Cable Ties, PLT4H-MD (06383).

PERSONNEL REQUIRED

Two (MOS-62B20).

REFERENCES (TM)

TM 5-3895-372-20P.
TM 5-3895-372-10.
TM 9-2320-273-10.

TROUBLESHOOTING REFERENCES

None.

SPECIAL ENVIRONMENTAL CONDITIONS

Vehicle Parked on Level Ground.

GENERAL SAFETY INSTRUCTIONS

Engine Off.
Transmission in Neutral.
Park Brake Set.

LIST OF TASKS

TASK NO.	TASK	TASK REF	TROUBLESHOOTING REF (TABLE)
1.	Clearance and Marker Lamp Bulb Replacement:	13-9	
	A. Removal.	13-9A	
	B. Installation.	13-9B	
	C. Operational Check.	13-9C	

13-8. LAMPS AND WIRING MAINTENANCE TASK SUMMARY (Continued).

LIST OF TASKS

TASK NO.	TASK	TASK REF	TROUBLESHOOTING REF (TABLE)
2.	Clearance and Marker Lamp Assembly Maintenance:	13-10	
	A. Removal.	13-10A	
	B. Installation.	13-10B	
	C. Operational Check.	13-10C	
3.	Wire and Cable Maintenance:	13-11	
	A. Removal and Installation.	13-11A	
	B. Operational Check.	13-11B	

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LAMPS AND WIRING.

13-9. CLEARANCE AND MARKER LAMP BULB REPLACEMENT.

THIS TASK COVERS: (APPROXIMATE TIME REQUIRED FOLLOWS TASK DESCRIPTION.)

a. Removal.	(5)
b. Installation.	(5)
c. Operational Check.	(5)
	15 Minutes Total.

INITIAL SETUP

APPLICABLE CONFIGURATIONS

M919.

TEST EQUIPMENT

None.

SPECIAL TOOLS

None.

MATERIALS/PARTS (P/N)

None.

EQUIPMENT CONDITION PARAGRAPH	CONDITION DESCRIPTION
None.	None.

PERSONNEL REQUIRED

One (MOS-62B20).

REFERENCES (TM)

TM 5-3895-372-20P.
TM 9-2320-273-10.

TROUBLESHOOTING REFERENCES

None.

SPECIAL ENVIRONMENTAL CONDITIONS

Vehicle Parked on Level Ground.

GENERAL SAFETY INSTRUCTIONS

Engine Off.
Transmission in Neutral.
Parking Brake Set.

LAMPS AND WIRING.

13-9. CLEARANCE AND MARKER LAMP BULB REPLACEMENT (Continued).

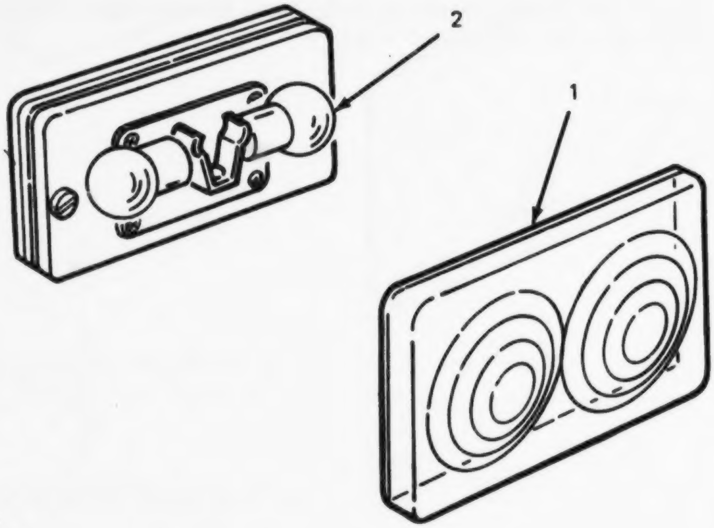
LOCATION/ITEM	ACTION	REMARKS

A. REMOVAL.

NOTE

Prior to removal of bulbs, make certain that lamp switch is OFF.

LOCATION/ITEM	ACTION	REMARKS
1. Lens (1).	Remove.	Lens snaps off.
2. Two bulbs (2).	Remove.	Push in and twist to the left.



LEGEND:

1. LENS
2. BULB (2)

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13-9. CLEARANCE AND MARKER LAMP BULB REPLACEMENT (Continued).

B. INSTALLATION.

NOTE

Prior to installation, remove rust and corrosion from bulb socket with emery paper.

LOCATION/ITEM	ACTION	REMARKS
3. Two bulbs (2).	Push in and twist to the right.	
4. Lens (1).	Snap on.	

C. OPERATIONAL CHECK.

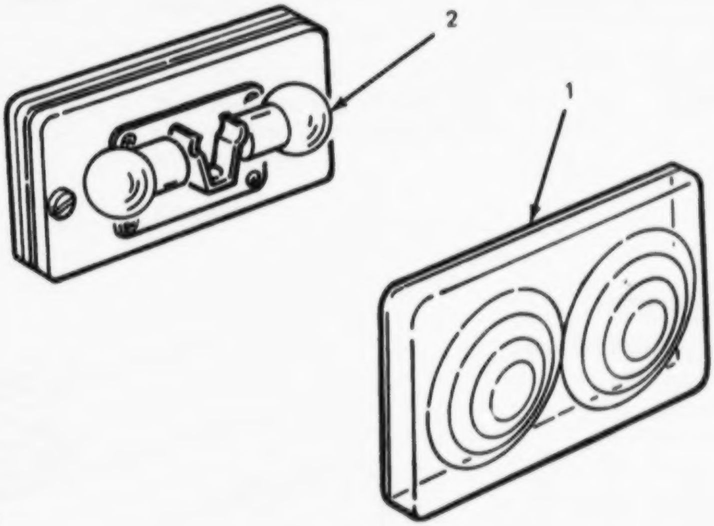
LOCATION/ITEM	ACTION	REMARKS
5. Lamp.	Pull main lamp switch to the ON position and check operation.	

NOTE

If bulb fails to light, check contact in bulb socket for rust or corrosion. If not repairable, replace lamp assembly. (See para 13-10.)

13-9. CLEARANCE AND MARKER LAMP BULB REPLACEMENT (Continued).

LOCATION/ITEM	ACTION	REMARKS



LEGEND:

1. LENS
2. BULB (2)

TA 076447

LAMPS AND WIRING.

13-10. CLEARANCE AND MARKER LAMP ASSEMBLY MAINTENANCE.

THIS TASK COVERS: (APPROXIMATE TIME REQUIRED FOLLOWS TASK DESCRIPTION.)

a. Removal.	(10)
b. Installation.	(10)
c. Operational Check.	(5)
	25 Minutes Total.

INITIAL SETUP

EQUIPMENT CONDITION PARAGRAPH	CONDITION DESCRIPTION
None.	None.

APPLICABLE CONFIGURATIONS

M919.

TEST EQUIPMENT

None.

SPECIAL TOOLS

None.

MATERIALS/PARTS (P/N)

Butt Connector, 230379 (23705).

PERSONNEL REQUIRED

One (MOS-62B20).

REFERENCES (TM)

TM 5-3895-372-20P.
TM 9-2320-273-10.

TROUBLESHOOTING REFERENCES

None.

SPECIAL ENVIRONMENTAL CONDITIONS

Vehicle Parked on Level Ground.

GENERAL SAFETY INSTRUCTIONS

Engine Off.
Transmission in Neutral.
Parking Brake Set.

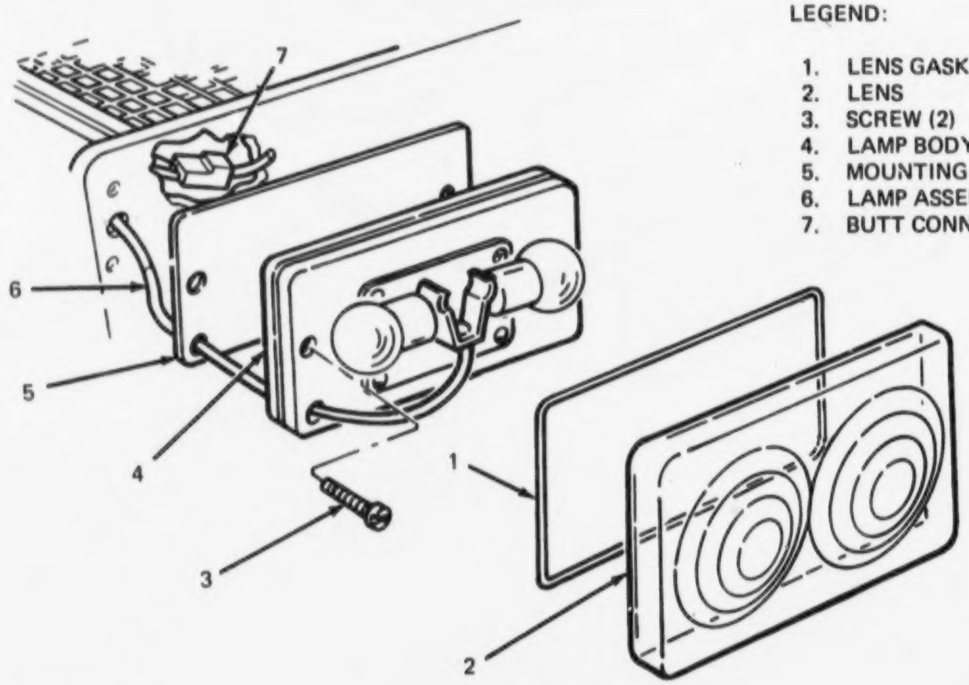
13-10. CLEARANCE MARKER LAMP ASSEMBLY MAINTENANCE (Continued).

A. REMOVAL.

NOTE

Before beginning service, be sure that main lamp switch is in the OFF position.

LOCATION/ITEM	ACTION	REMARKS
1. Lens (2).	Remove.	Lens snaps off.
2. Lens gasket (1).	Remove from lamp body (4).	
3. Two screws (3).	Remove.	
4. Lamp body (4).	Pull out.	
5. Wire (6).	Cut closely at rear of body (4) and remove. Tuck remainder of wire into bin.	
6. Mounting pad (5).	Remove.	



LEGEND:

1. LENS GASKET
2. LENS
3. SCREW (2)
4. LAMP BODY
5. MOUNTING PAD
6. LAMP ASSEMBLY WIRE
7. BUTT CONNECTOR

TA 076448

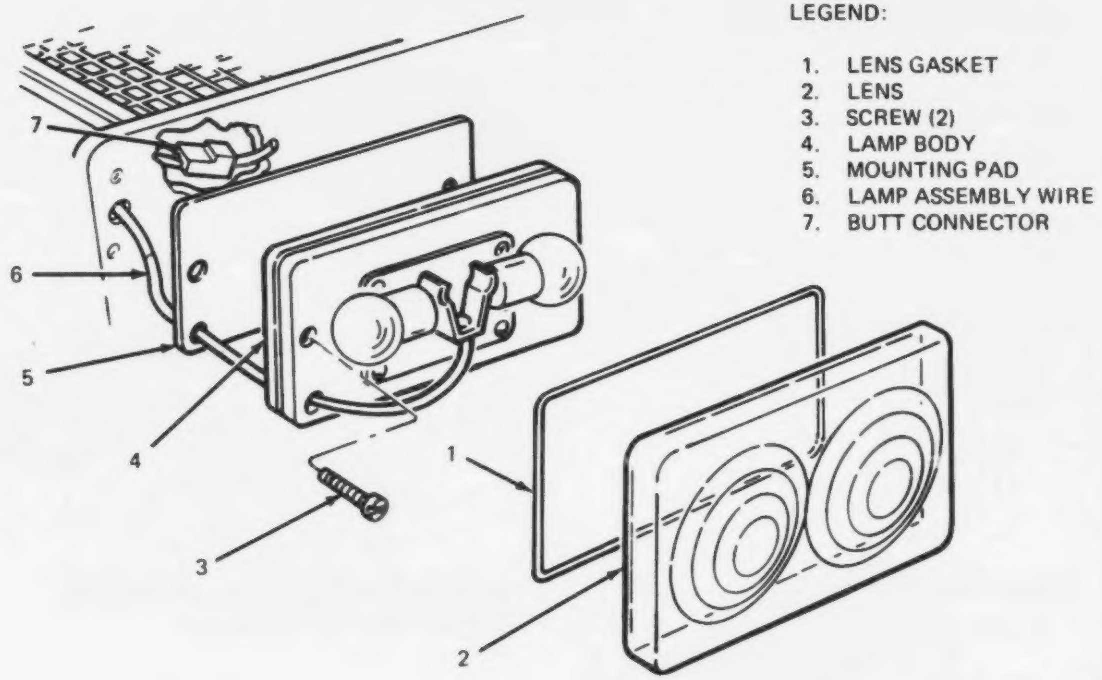
13-10. CLEARANCE AND MARKER LAMP ASSEMBLY MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS
B. INSTALLATION.		
7. Mounting pad (5).	Run lamp assembly wire (6) through mounting pad (5) into bins.	
8. Lamp body (4).	Mount with two screws (3).	
9. Lamp assembly wire (6).	Enter bin and splice existing wire and new lamp assembly wire (6) with new butt connector (7). Use a suitable pair of pliers.	
10. Lens gasket (1)	Install on lamp body (4).	
11. Lens (2).	Install.	Snap on.
C. OPERATIONAL CHECK.		
12. Lamp switch.	Pull to ON position. Check lamp operation. Push to OFF position.	

LAMPS AND WIRING.

13-10. CLEARANCE AND MARKER LAMP ASSEMBLY MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS


LEGEND:
1. LENS GASKET
2. LENS
3. SCREW (2)
4. LAMP BODY
5. MOUNTING PAD
6. LAMP ASSEMBLY WIRE
7. BUTT CONNECTOR
1
2
3
4
5
6
7

TA 076449

LAMPS AND WIRING.

13-11. WIRE AND CABLE MAINTENANCE.

THIS TASK COVERS: (APPROXIMATE TIME REQUIRED FOLLOWS TASK DESCRIPTION.)

a. Removal and Installation.	(AR)
b. Operational Check.	(AR)
	AR Minutes Total.

INITIAL SETUP

EQUIPMENT CONDITION PARAGRAPH	CONDITION DESCRIPTION
None.	None.

APPLICABLE CONFIGURATIONS

M919.

TEST EQUIPMENT

None.

SPECIAL TOOLS

None.

MATERIALS/PARTS (P/N)

Marking Pen.
Masking Tape.

PERSONNEL REQUIRED

Two (MOS-62B20).

REFERENCES (TM)

None.

TROUBLESHOOTING REFERENCES

None.

SPECIAL ENVIRONMENTAL CONDITIONS

Vehicle Parked on Level Ground.

GENERAL SAFETY INSTRUCTIONS

Engine Off.
Transmission in Neutral.
Parking Brake Set.

LAMPS AND WIRING.

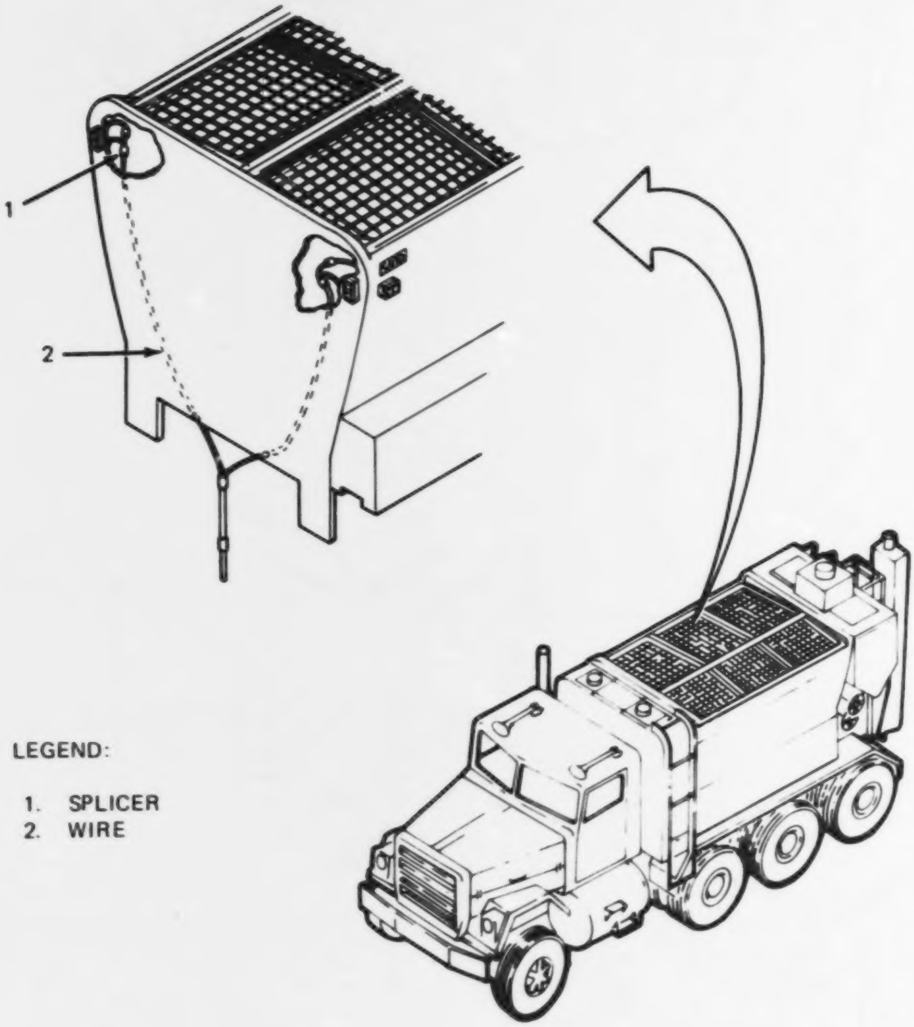
13-11. WIRE AND CABLE MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS

A. REMOVAL AND INSTALLATION.

NOTE

Before beginning service make sure the main lamp switch is in the OFF position. Check wiring for damage and replace as necessary using standard shop practices. Tag wires as they are removed to aid installation.



LEGEND:

1. SPLICER
2. WIRE

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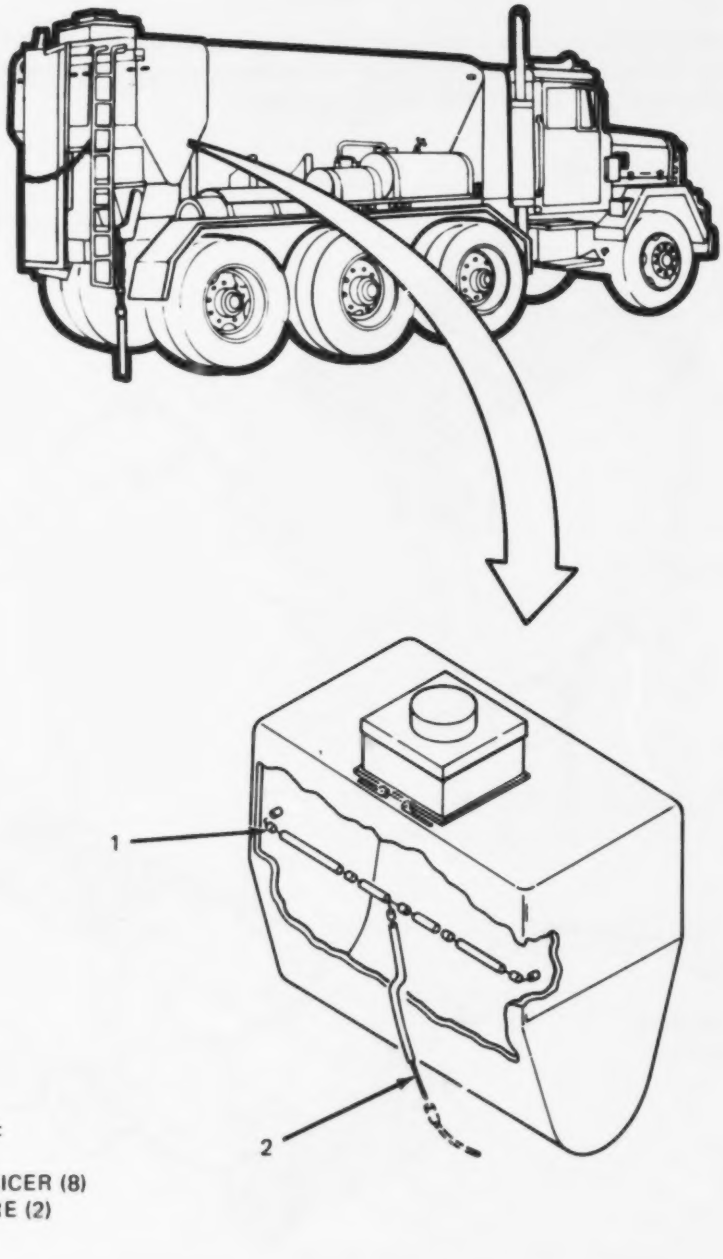
13-11. WIRE AND CABLE MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS



LEGEND:

1. SPLICER (8)
2. WIRE (2)

TA 076451

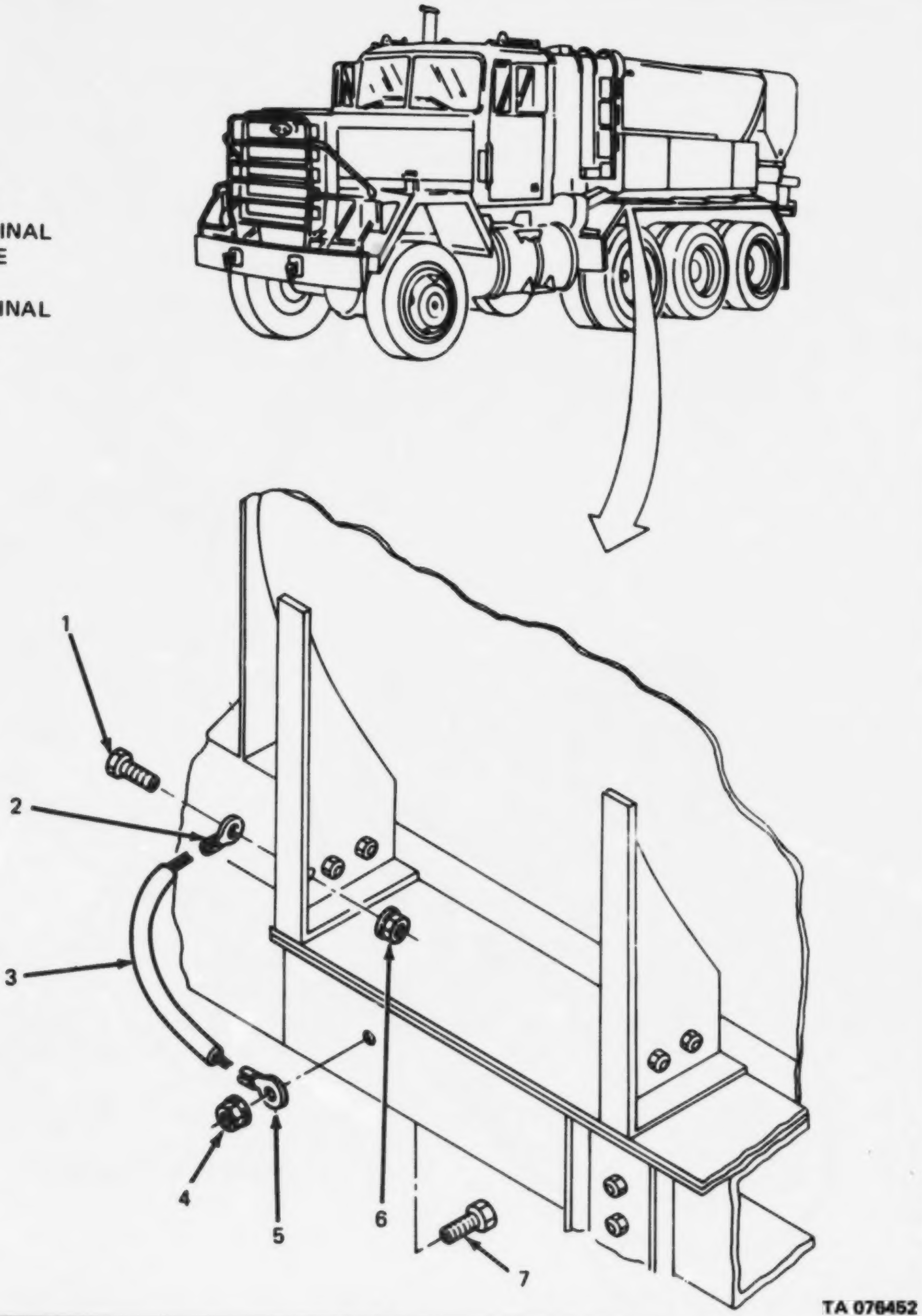
LAMPS AND WIRING.

13-11. WIRE AND CABLE MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS

LEGEND:

1. BOLT
2. TERMINAL
3. CABLE
4. NUT
5. TERMINAL
6. NUT
7. BOLT



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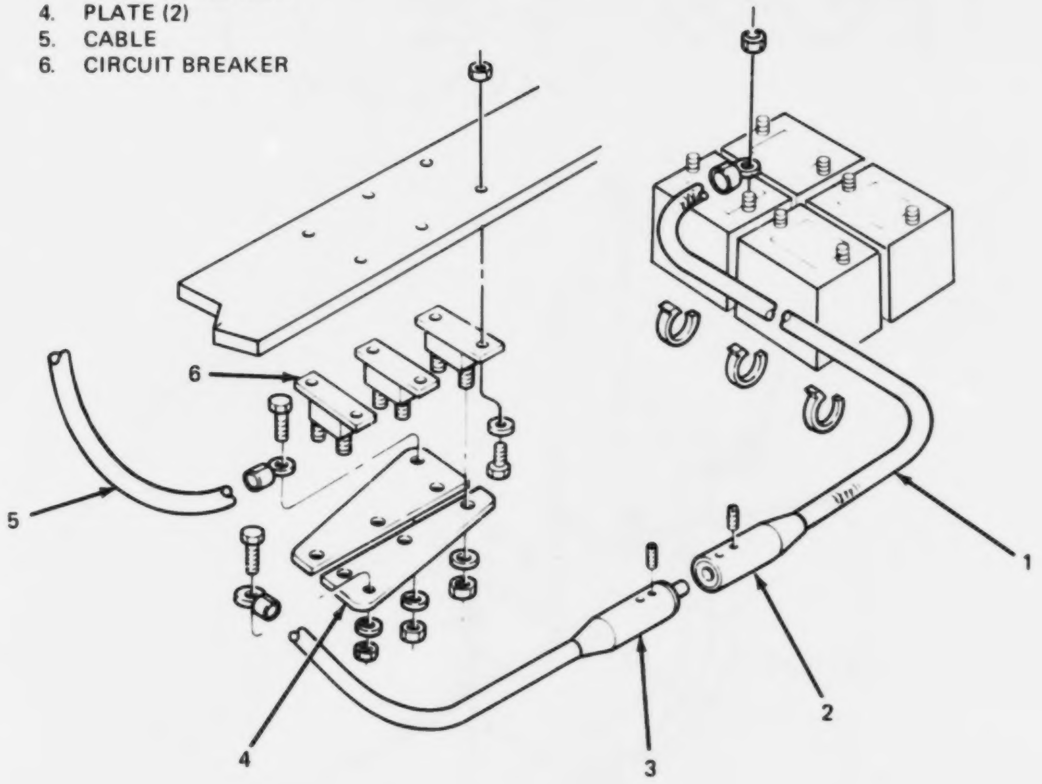
LAMPS AND WIRING.

13-11. WIRE AND CABLE MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS

LEGEND:

1. CABLE
2. FEMALE CONNECTOR
3. MALE CONNECTOR
4. PLATE (2)
5. CABLE
6. CIRCUIT BREAKER



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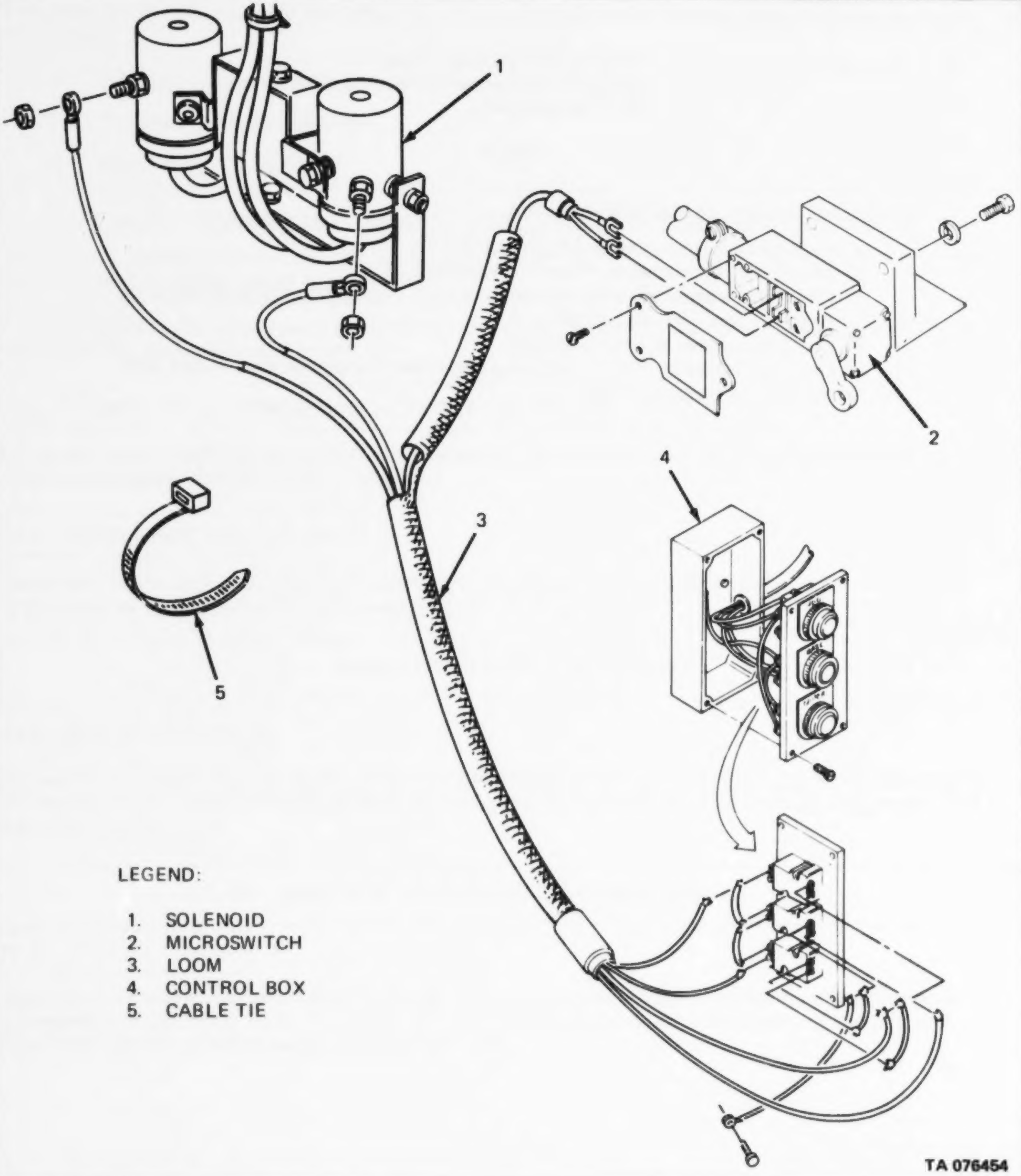
LAMPS AND WIRING.

13-11. WIRE AND CABLE MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS



LEGEND:

1. SOLENOID
2. MICROSWITCH
3. LOOM
4. CONTROL BOX
5. CABLE TIE

LAMPS AND WIRING.

13-11. WIRE AND CABLE MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS
B. OPERATIONAL CHECK.		
Main lamp switch.	Turn to ON position. Check lamps for operation. Turn OFF lamp switch.	

NOTE

If lamps fail to light, do the following steps:

a. Replace bulb with new or known good bulb.
b. Check wire connections. Repair if necessary.
c. Check lamp assemblies for corrosion or rust. Repair or replace as necessary. Refer to para 13-9 and 13-10.
d. Check for power at lamp assembly.
e. Use a voltmeter or 12-volt test lamp and check for power where body wire splices into chassis harness.

CHAPTER 14

MISCELLANEOUS BODY COMPONENTS

14-1. OVERVIEW.

This chapter provides you with the following information related to miscellaneous body components maintenance:

a. All required special tools and equipment.

b. Troubleshooting procedures.

c. Maintenance procedures.

Section I REPAIR PARTS, SPECIAL TOOLS, TMDE, AND SUPPORT EQUIPMENT

14-2. COMMON TOOLS AND EQUIPMENT.

For authorized common tools and equipment, refer to the Modified Table of Organization and Equipment (MTOE) applicable to your unit.

14-3. SPECIAL TOOLS, TMDE, AND SUPPORT EQUIPMENT.

No special tools, TMDE, or support equipment are required for miscellenous body components maintenance procedures described in this chapter.

14-4. SPARES AND REPAIR PARTS.

Spares and repair parts are listed and illustrated in the Repair Parts and Special Tools List covering Organizational Maintenance for this equipment (TM 5-3895-372-20P).

Section II TROUBLESHOOTING

14-5. INTRODUCTION.

No specific troubleshooting procedures for the miscellaneous body components covered in this chapter are required. Use the maintenance procedures contained in this chapter when damage, requiring replacement, is apparent.

Section III MAINTENANCE PROCEDURES

14-6. INTRODUCTION.

This section provides you with Organizational Level maintenance procedures for miscellaneous body components of the mixer body. Paragraph 14-7 summarizes the maintenance tasks. Paragraphs 14-8 thru 14-11 contain detailed instructions for each task.

14-7. MISCELLANEOUS BODY COMPONENTS MAINTENANCE TASK SUMMARY.

INITIAL SETUP

APPLICABLE CONFIGURATIONS

M919.

EQUIPMENT CONDITION PARAGRAPH	CONDITION DESCRIPTION
6-15 and 6-16A.	Liquid Admix Tanks Removed.
TM 5-3895-372-10.	Extension Chutes Removed.
TM 5-3895-372-10.	Auxiliary Cement Bin Removed.

TEST EQUIPMENT

None.

SPECIAL TOOLS

None.

MATERIALS/PARTS (P/N)

None.

PERSONNEL REQUIRED

One (MOS-62B20).

SPECIAL ENVIRONMENTAL CONDITIONS

Vehicle Parked on Level Ground.

REFERENCES (TM)

TM 5-3895-372-10.
TM 5-3895-372-20P.
TM 9-2320-273-10.

GENERAL SAFETY INSTRUCTIONS

Engine OFF.
Transmission in Neutral.
Park Brake Set.

TROUBLESHOOTING REFERENCES

None.

LIST OF TASKS

TASK NO.	TASK	TASK REF	TROUBLESHOOTING REF (TABLE)
1.	Auxiliary Cement Bin Maintenance:	14-8	
	A. Disassembly.	14-8A	
	B. Assembly.	14-8B	
	C. Adjustment.	14-8C	

14-7. MISCELLANEOUS BODY COMPONENTS MAINTENANCE TASK SUMMARY (Continued).

LIST OF TASKS

TASK NO.	TASK	TASK REF	TROUBLESHOOTING REF (TABLE)
2.	Tarpaulin Maintenance:	14-9	
	A. Removal.	14-9A	
	B. Repair.	14-9B	
	C. Installation.	14-9C	
3.	Mud Flap and Rear Fender Maintenance:	14-10	
	A. Removal.	14-10A	
	B. Installation.	14-10B	
4.	Reflector Maintenance:	14-11	
	A. Removal.	14-11A	
	B. Installation.	14-11B	

MISCELLANEOUS BODY COMPONENTS.

14-8. AUXILIARY CEMENT BIN MAINTENANCE.

THIS TASK COVERS: (APPROXIMATE TIME REQUIRED FOLLOWS TASK DESCRIPTION.)

a. Disassembly.	(15)
b. Assembly.	(15)
c. Adjustment.	(5)
	35 Minutes Total.

INITIAL SETUP

APPLICABLE CONFIGURATIONS

M919.

TEST EQUIPMENT

None.

SPECIAL TOOLS

None.

MATERIALS/PARTS (P/N)

None.

EQUIPMENT CONDITION PARAGRAPH	CONDITION DESCRIPTION
TM 5-3895-372-10.	Auxiliary Cement Bin Removed.

PERSONNEL REQUIRED

One (MOS-62B20).

REFERENCES (TM)

TM 5-3895-372-10.
TM 5-3895-372-20P.
TM 9-2320-273-10.

TROUBLESHOOTING REFERENCES

None.

SPECIAL ENVIRONMENTAL CONDITIONS

Auxiliary Cement Bin on Level Ground

GENERAL SAFETY INSTRUCTIONS

None.

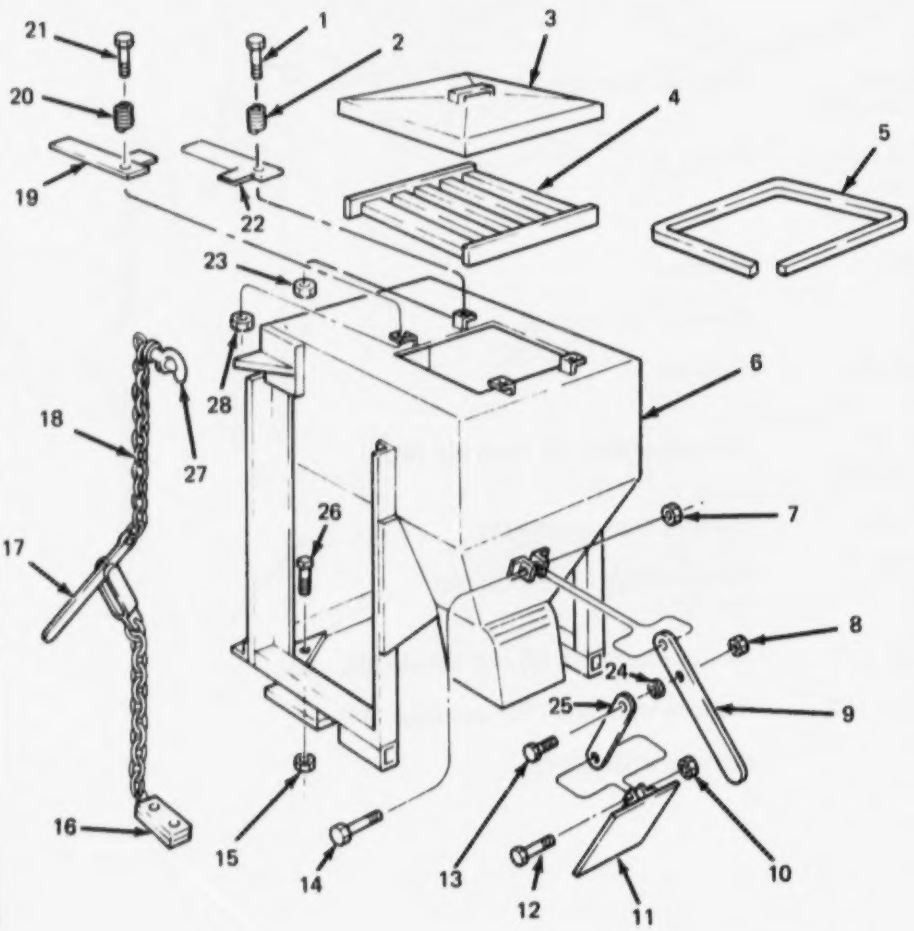
MISCELLANEOUS BODY COMPONENTS.

14-8. AUXILIARY CEMENT BIN MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS

WARNING

Cement dust can be harmful. During removal and installation operations, or any time there is cement dust in the air, take precautions to avoid direct inhalation of the dust. If you must be in the immediate vicinity of dust, wear a dust mask; or if none is available, cover your nose and mouth with a cloth. CEMENT DUST CAN CAUSE SERIOUS LUNG PROBLEMS.



LEGEND:

1. CAPSCREW (2)
2. SPRING (2)
3. LID
4. GRATE
5. WEATHER STRIP
6. BIN
7. NUT
8. NUT
9. HANDLE
10. NUT
11. DOOR
12. CAPSCREW
13. CAPSCREW
14. CAPSCREW
15. NUT (2)
16. DOUBLE CLEVIS LINK (2)
17. CHAIN BINDER (2)
18. CHAIN
19. LEFT HAND LATCH (2)
20. SPRING (2)
21. CAPSCREW (2)
22. RIGHT HAND LATCH (2)
23. NUT (2)
24. WASHER
25. LINK
26. SQUARE HEAD SETSCREW (2)
27. CHAIN SHACKLE (2)
28. NUT (2)

TA 076455

MISCELLANEOUS BODY COMPONENTS.

14-8. AUXILIARY CEMENT BIN MAINTENANCE (Continued).

WARNING

Prolonged contact with cement or wet concrete can cause skin irritation or burns. During loading operations with cement or while working with wet concrete, take every precaution to avoid contact with skin. Skin areas that have been exposed either directly or through saturated clothing should be washed thoroughly with water. If any cement or concrete material gets into the eye, flush immediately with water and get PROMPT MEDICAL ATTENTION.

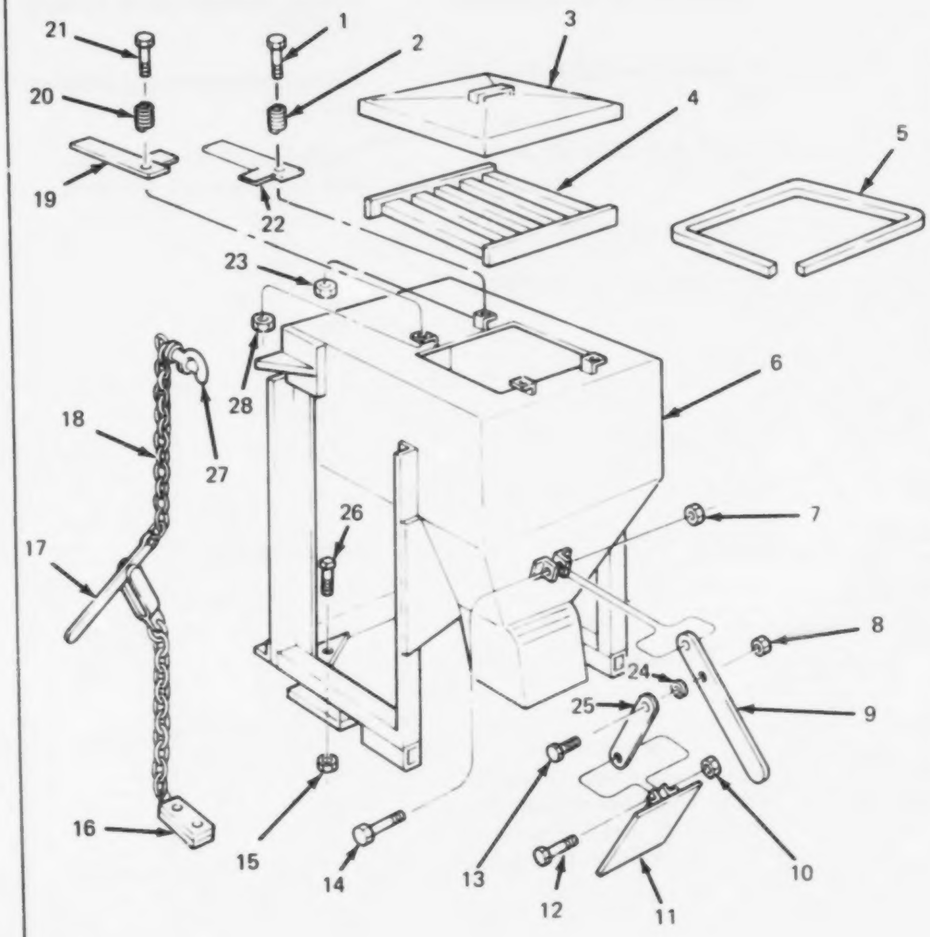
A. DISASSEMBLY.

LOCATION/ITEM	ACTION	REMARKS
1. Four capscrews (1) and (21) and nuts (23) and (28).	Remove from bin (6).	
2. Four springs (2) and (20), two left hand latches (19) and two right hand latches (22).	Remove.	
3. Lid (3) and grate (4).	Remove.	
4. Weather strip (5).	Remove from lid (3).	
5. Two square head screws (26) and nuts (15).	Remove.	
6. Two chain shackles (27), and double clevis link (16).	Remove chain (18) from bin (6).	
7. Two chain binders (17).	Remove from chain (18).	
8. Capscrew (13), nut (8) and washer (24).	Remove from handle (9) and link (25).	
9. Capscrew (14) and nut (7).	Remove from bin (6) and handle (9).	
10. Capscrew (12) and nut (10).	Remove from link (25) and door (11).	
11. Door (11).	Remove from bin (6).	

MISCELLANEOUS BODY COMPONENTS.

14-8. AUXILIARY CEMENT BIN MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS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LEGEND:

1. CAPSCREW (2)
2. SPRING (2)
3. LID
4. GRATE
5. WEATHER STRIP
6. BIN
7. NUT
8. NUT
9. HANDLE
10. NUT
11. DOOR
12. CAPSCREW
13. CAPSCREW
14. CAPSCREW
15. NUT (2)
16. DOUBLE CLEVIS LINK (2)
17. CHAIN BINDER (2)
18. CHAIN
19. LEFT HAND LATCH (2)
20. SPRING (2)
21. CAPSCREW (2)
22. RIGHT HAND LATCH (2)
23. NUT (2)
24. WASHER
25. LINK
26. SQUARE HEAD SETSCREW (2)
27. CHAIN SHACKLE (2)
28. NUT (2)

TA 076456

MISCELLANEOUS BODY COMPONENTS.

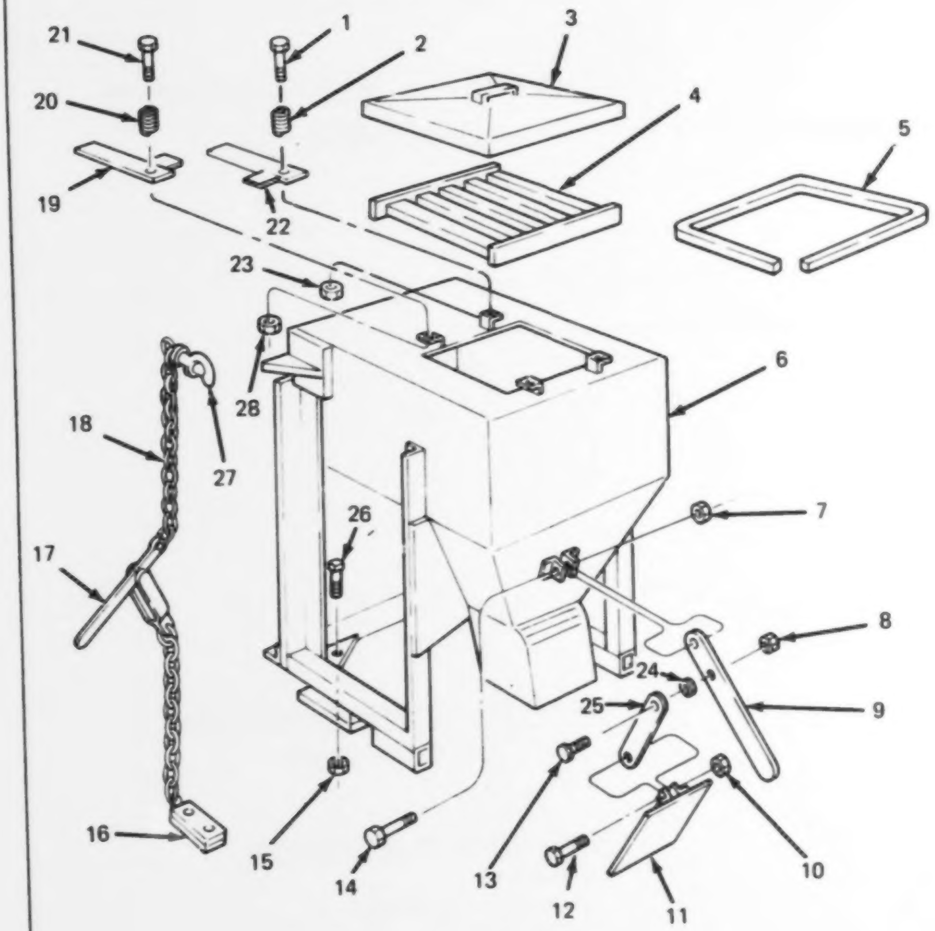
14-8. AUXILIARY CEMENT BIN MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS
B. ASSEMBLY.		
12. Door (11).	Install in bin (6).	
13. Capscrew (12) and nut (10).	Install to link (25) and door (11).	Do not overtighten or binding will exist.
14. Capscrew (14) and nut (7).	Install to bin (6) and handle (9).	Do not overtighten or binding will exist.
15. Capscrew (13), nut (8) and washer (24).	Install to handle (9) and link (25).	Tighten until binding exists and then back off 1/4 turn.
16. Two chain binders (17).	Install to chain (18).	
17. Two chain shackles (27) and double clevis link (16).	Install chain (18) to bin (6).	
18. Two square head screws (26) and nuts (15).	Install.	
19. Weather strip (5).	Install to lid (3).	
20. Lid (3) and grate (4).	Install.	
21. Four springs (2) and (20), two left hand latches (19), two right hand latches (22), four capscrews (1) and (21), and nuts (23) and (28).	Install to bin.	Do not tighten.
C. ADJUSTMENT.		
22. Two left hand latches (19) and two right hand latches (22).	Adjust capscrews (1) and (21) to give adequate tension on latches (19) and (22) when in a latched position over lid (3).	

MISCELLANEOUS BODY COMPONENTS.

14-8. AUXILIARY CEMENT BIN MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS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LEGEND:
1. CAPSCREW (2)
2. SPRING (2)
3. LID
4. GRATE
5. WEATHER STRIP
6. BIN
7. NUT
8. NUT
9. HANDLE
10. NUT
11. DOOR
12. CAPSCREW
13. CAPSCREW
14. CAPSCREW
15. NUT (2)
16. DOUBLE CLEVIS LINK (2)
17. CHAIN BINDER (2)
18. CHAIN
19. LEFT HAND LATCH (2)
20. SPRING (2)
21. CAPSCREW (2)
22. RIGHT HAND LATCH (2)
23. NUT (2)
24. WASHER
25. LINK
26. SQUARE HEAD SETSCREW (2)
27. CHAIN SHACKLE (2)
28. NUT (2)

TA 076457

MISCELLANEOUS BODY COMPONENTS.

14-9. TARPAULIN MAINTENANCE.

THIS TASK COVERS: (APPROXIMATE TIME REQUIRED FOLLOWS TASK DESCRIPTION.)

a. Removal.	(10)
b. Repair.	(AR)
c. Installation.	(10)
	20 Minutes Total.

INITIAL SETUP

APPLICABLE CONFIGURATIONS

M919.

TEST EQUIPMENT

None.

SPECIAL TOOLS

None.

MATERIALS/PARTS (P/N)

None.

EQUIPMENT CONDITION PARAGRAPH	CONDITION DESCRIPTION
None.	None.

PERSONNEL REQUIRED

One (MOS-62B20).

REFERENCES (TM)

TM 5-3895-372-10.
TM 5-3895-372-20P.
TM 9-2320-273-10.

TROUBLESHOOTING REFERENCES

None.

SPECIAL ENVIRONMENTAL CONDITIONS

Vehicle Parked on Level Ground.

GENERAL SAFETY INSTRUCTIONS

Engine Off.
Transmission in Neutral.
Parking Brake Set.

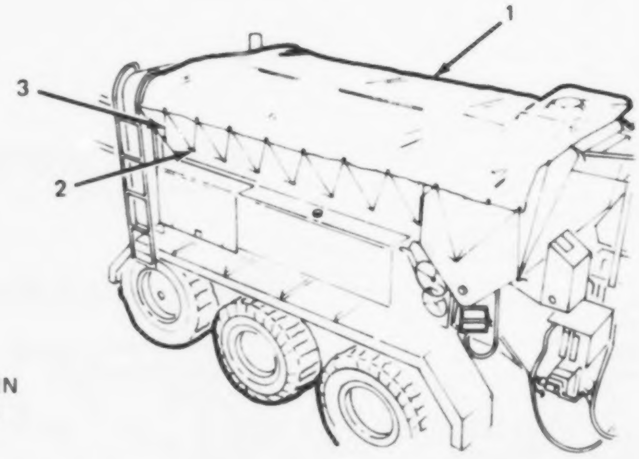
14-9. TARPAULIN MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS
A. REMOVAL.		
1. Rope (3).	Loosen and remove from twenty-five hooks (2).	
2. Tarpaulin (1).	Remove and fold.	
B. REPAIR.		

NOTE

For sewing of tears or patches, refer to FM 10-16, General Repair of Tent, Canvas, and Webbing.

LOCATION/ITEM	ACTION	REMARKS
C. INSTALLATION.		
3. Tarpaulin (1).	Unfold and lay over bins.	
4. Rope (3).	Place on twenty-five hooks (2); tighten and secure.	



LEGEND:

1. TARPAULIN
2. HOOK (25)
3. ROPE

TA 076458

MISCELLANEOUS BODY COMPONENTS.

14-10. MUD FLAP AND REAR FENDER MAINTENANCE.

THIS TASK COVERS: (APPROXIMATE TIME REQUIRED FOLLOWS TASK DESCRIPTION.)

a. Removal.	(30)
b. Installation.	(30)
	60 Minutes Total.

INITIAL SETUP

EQUIPMENT CONDITION PARAGRAPH	CONDITION DESCRIPTION
6-13 and 6-14.	Liquid admix tanks removed.
TM5-3895-372-10.	Extension chutes removed.

APPLICABLE CONFIGURATIONS

M919.

TEST EQUIPMENT

None.

SPECIAL TOOLS

None.

MATERIALS/PARTS (P/N)

None.

PERSONNEL REQUIRED

Two (MOS-62B20).

REFERENCES (TM)

TM 5-3895-372-10.
TM 5-3895-372-20P.
TM 9-2320-273-10.

TROUBLESHOOTING REFERENCES

None.

SPECIAL ENVIRONMENTAL CONDITIONS

Vehicle Parked on Level Ground.

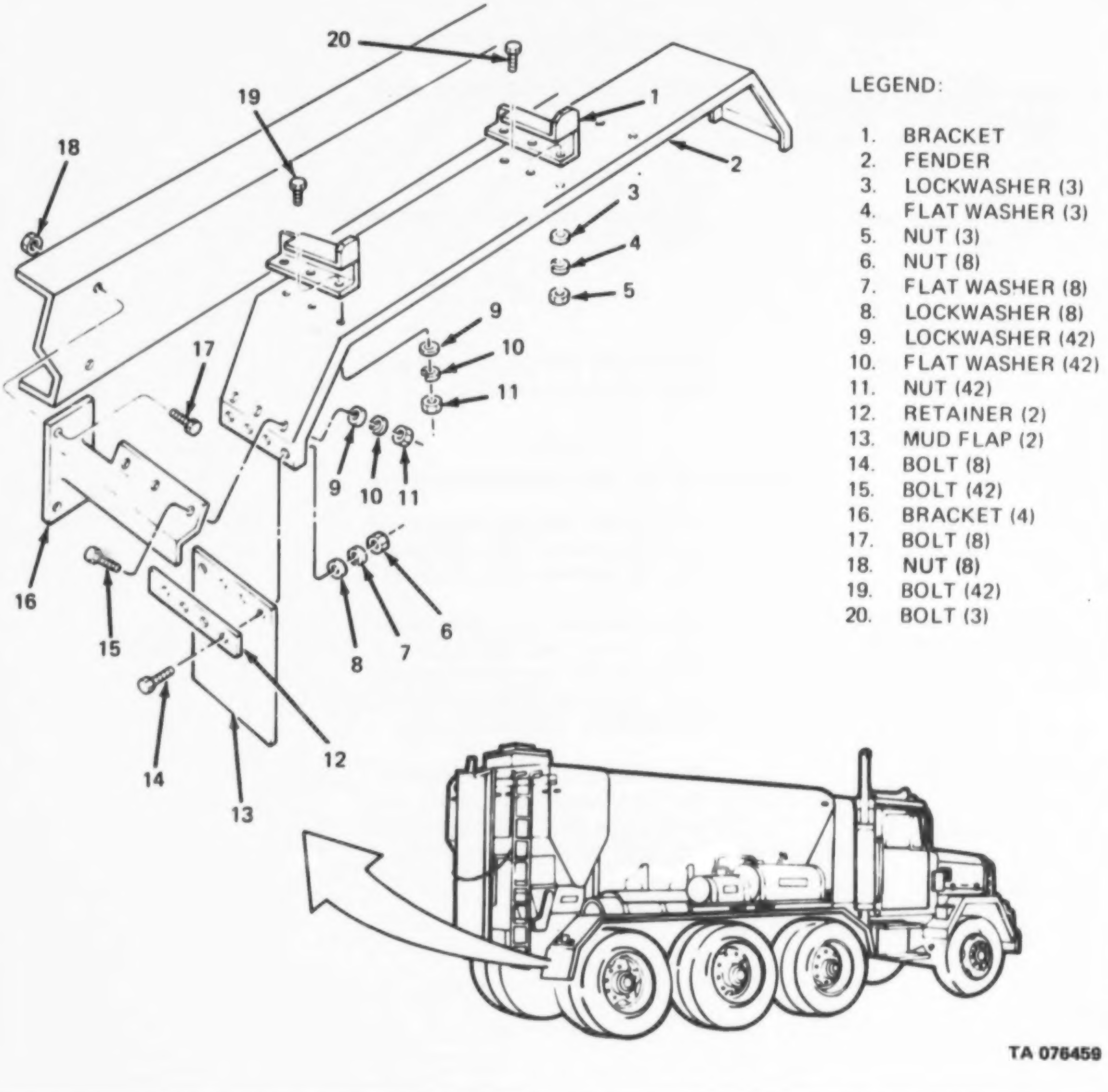
GENERAL SAFETY INSTRUCTIONS

Engine Off.
Transmission in Neutral.
Parking Brake Set.

MISCELLANEOUS BODY COMPONENTS.

14-10. MUD FLAP AND REAR FENDER MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS
A. REMOVAL.		
1. Three bolts (20), three lockwashers (3), three flat washers (4), and three nuts (5).	Loosen and remove bracket (1).	



LEGEND:

1.	BRACKET
2.	FENDER
3.	LOCKWASHER (3)
4.	FLAT WASHER (3)
5.	NUT (3)
6.	NUT (8)
7.	FLAT WASHER (8)
8.	LOCKWASHER (8)
9.	LOCKWASHER (42)
10.	FLAT WASHER (42)
11.	NUT (42)
12.	RETAINER (2)
13.	MUD FLAP (2)
14.	BOLT (8)
15.	BOLT (42)
16.	BRACKET (4)
17.	BOLT (8)
18.	NUT (8)
19.	BOLT (42)
20.	BOLT (3)

TA 076459

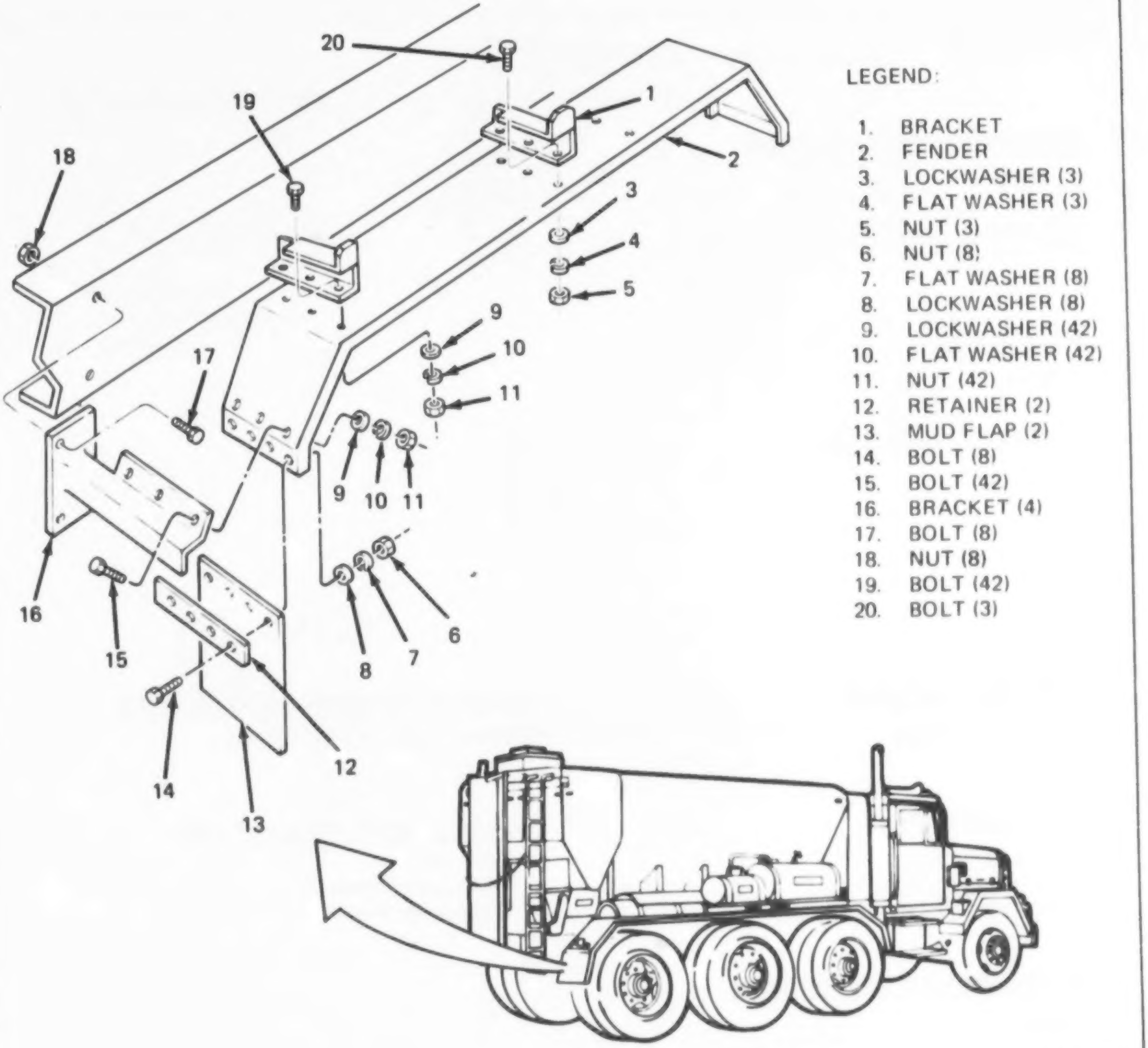
14-10. MUD FLAP AND REAR FENDER MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS
A. REMOVAL (Continued).		
2. Eight bolts (14), eight lockwashers (9), eight flat washers (10), and eight nuts (11).	Loosen and remove two mud flaps (13) and two retainers (12).	
	NOTE Support fenders before performing step 3.	
3. Forty-two bolts (19), forty-two lockwashers (9), forty-two flat washers (10), and forty-two nuts (11).	Loosen and remove two fenders (2).	
4. Eight bolts (17) and eight nuts (18).	Loosen and remove four brackets (16).	
B. INSTALLATION.		
5. Four brackets (16).	Aline holes and secure with eight bolts (17) and nuts (18).	
	NOTE Support fender while performing step 6.	
6. Two fenders (2).	Aline with holes and secure with forty-two bolts (19), lockwashers (9), flat washers (10) and nuts (11).	
7. Two retainers (12) and two mud flaps (13).	Aline retainers (12) with fender holes. Aline mud flaps (13) to retainers (12) and secure with eight bolts (14), lockwashers (8), flat washers (7) and nuts (6).	
8. Bracket (1).	Aline bracket (1) with holes in the right fender (2). Secure with three bolts (20), lockwashers (3), flat washers (4), and nuts (5).	

MISCELLANEOUS BODY COMPONENTS.

14-10. MUD FLAP AND REAR FENDER MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS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LEGEND:

1. BRACKET
2. FENDER
3. LOCKWASHER (3)
4. FLAT WASHER (3)
5. NUT (3)
6. NUT (8)
7. FLAT WASHER (8)
8. LOCKWASHER (8)
9. LOCKWASHER (42)
10. FLAT WASHER (42)
11. NUT (42)
12. RETAINER (2)
13. MUD FLAP (2)
14. BOLT (8)
15. BOLT (42)
16. BRACKET (4)
17. BOLT (8)
18. NUT (8)
19. BOLT (42)
20. BOLT (3)

TA 076460

MISCELLANEOUS BODY COMPONENTS.

14-11. REFLECTOR MAINTENANCE.

THIS TASK COVERS: (APPROXIMATE TIME REQUIRED FOLLOWS TASK DESCRIPTION.)

a. Removal.	(15)
b. Installation.	(15)
	30 Minutes Total.

INITIAL SETUP

EQUIPMENT CONDITION PARAGRAPH	CONDITION DESCRIPTION
None.	None.

APPLICABLE CONFIGURATIONS

M919.

TEST EQUIPMENT

None.

SPECIAL TOOLS

None.

MATERIALS/PARTS (P/N)

None.

PERSONNEL REQUIRED

One (MOS-62B20).

REFERENCES (TM)

TM 5-3895-372-10.
TM 5-3895-372-20P.
TM 9-2320-273-10.

TROUBLESHOOTING REFERENCES

None.

SPECIAL ENVIRONMENTAL CONDITIONS

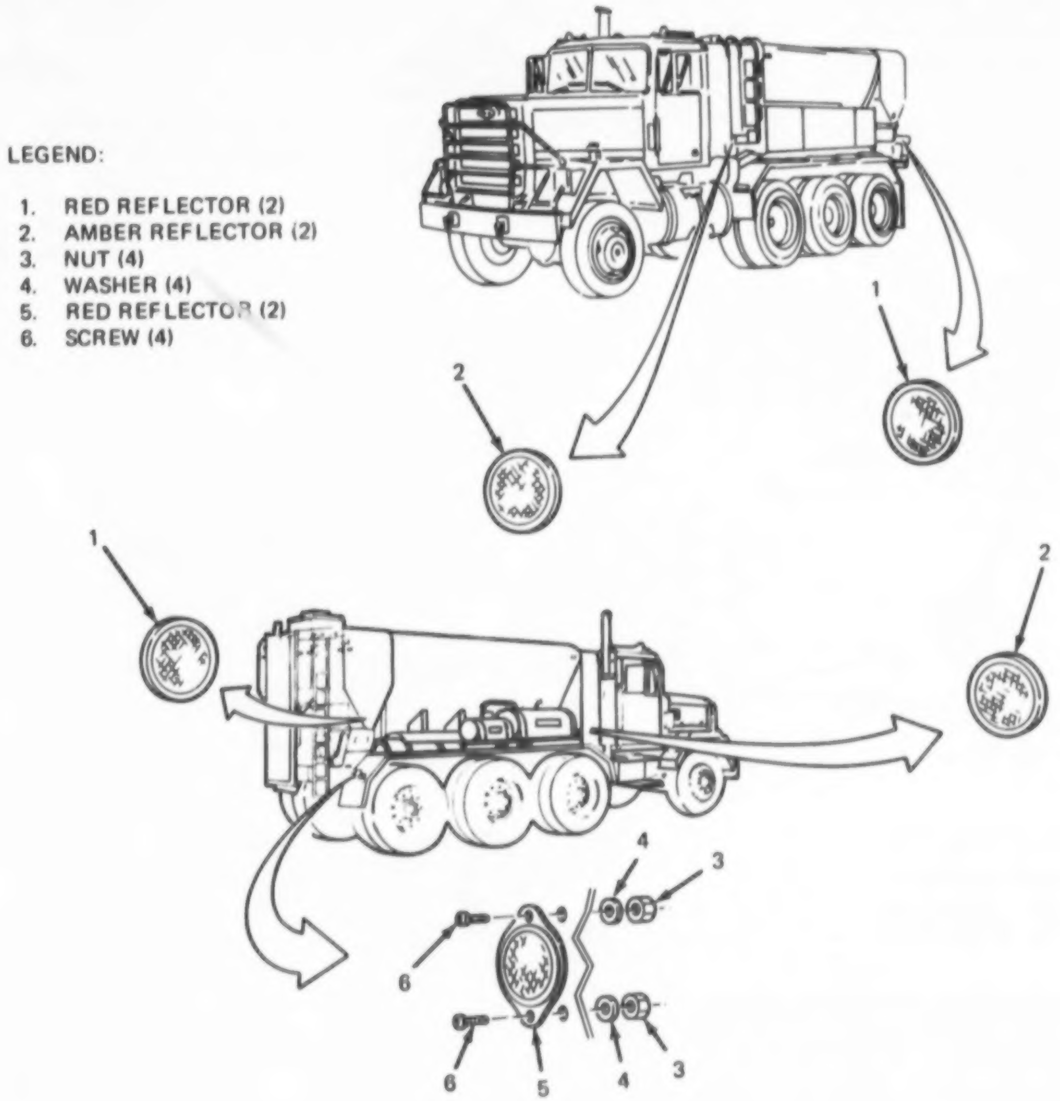
Vehicle Parked on Level Ground.

GENERAL SAFETY INSTRUCTIONS

Engine Off.
Transmission in Neutral.
Parking Brake Set.

14-11. REFLECTOR MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS
A. REMOVAL.		
1. Four screws (6), and washers (4), and nuts (3).	Loosen and remove two red reflectors (5).	



LEGEND:

1. RED REFLECTOR (2)
2. AMBER REFLECTOR (2)
3. NUT (4)
4. WASHER (4)
5. RED REFLECTOR (2)
6. SCREW (4)

TA 076461

MISCELLANEOUS BODY COMPONENTS.

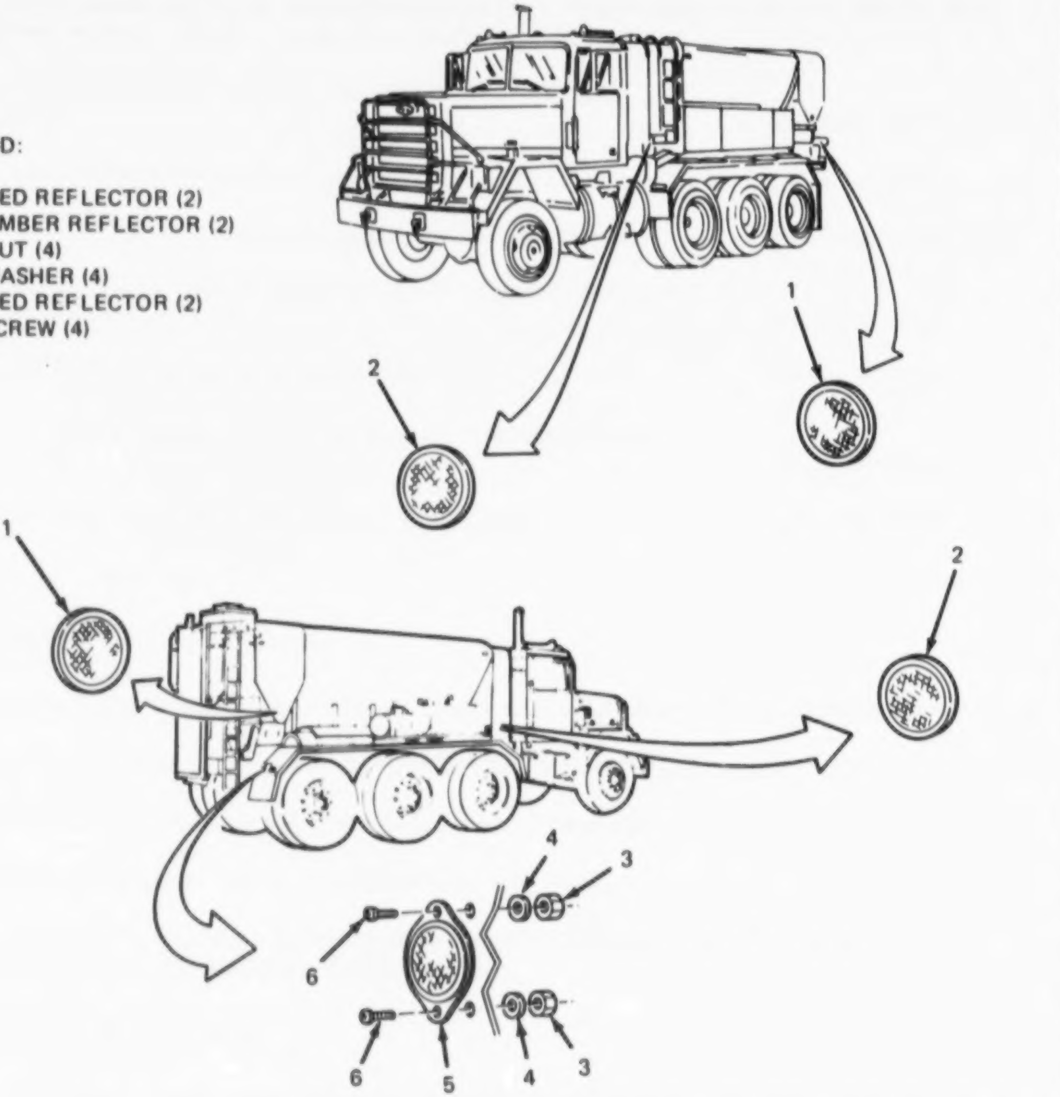
14-11. REFLECTOR MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS
A. REMOVAL (Continued).		
2. Two red reflectors (1) and amber reflectors (2).	Using a sharp tool, pry off.	Clean surface area after reflectors have been removed.
B. INSTALLATION.		
3. Two red reflectors (5).	Aline with holes and secure with four screws (6), washers (4), and nuts (3).	
4. Two red reflectors (1) and two amber reflectors (2).	Peel off paper covering the self-adhesive back and press firmly in place.	

MISCELLANEOUS BODY COMPONENTS.

14-11. REFLECTOR MAINTENANCE (Continued).

LOCATION/ITEM	ACTION	REMARKS



LEGEND:

1. RED REFLECTOR (2)
2. AMBER REFLECTOR (2)
3. NUT (4)
4. WASHER (4)
5. RED REFLECTOR (2)
6. SCREW (4)

TA 076462

APPENDIX A

REFERENCES

A-1. PUBLICATION INDEXES.

The following indexes should be consulted frequently for latest changes or revisions and for new publications relating to material covered in this technical manual.

Index of Army Motion Pictures, Television Recordings, and Film Strips	DA PAM 108-1
Index of Administrative Publications	DA PAM 310-1
Index of Doctrinal, Training, and Organizational Publications	DA PAM 310-3
Bulletins, Supply Manuals (Types 7, 8, and 9), Supply Bulletins, and Lubrication Orders	DA PAM 310-4
Index of Graphic Training Aids and Devices	DA PAM 310-5
Index of Supply Catalogs and Supply Manuals (excluding Types 7, 8, and 9)	DA PAM 310-6
Index of Army Equipment Modification Work Orders	DA PAM 310-7

A-2. FORMS.

The following forms pertain to this material. (Refer to DA Pamphlet 310-2 for index of blank forms.)

Standard Form 46, U.S. Government Motor Vehicle Operator's Identification Card.

Standard Form 91, Operator's Report of Motor Vehicle Accident.

Recommended Changes to DA Publications and Blank Forms, DA Form 2028.

Refer to TM 38-750, The Army Maintenance Management Systems (TAMMS), for instructions on the use of maintenance forms pertaining to this material.

A-3. OTHER PUBLICATIONS.

The following publications contain information pertinent to the major item materiel and associated equipment.

a. Operating Vehicle.

Operator's Manual for M915, M916, and M920 Truck Tractors and Chassis for M917, M918, and M919	TM 9-2320-273-10

A-3. OTHER PUBLICATIONS (Continued).

a. Operating Vehicle (Continued).

Operator's Manual for M919 Concrete Mobile Mixer Body	TM 5-3895-372-10
Army Motor Transport Units and Operations	FM 55-30
Manual for the Wheeled Vehicle Driver	FM 21-305
Prevention of Motor Vehicle Accidents	AR 385-55
Accident Reporting and Records	AR 385-40

b. Maintenance and Repair.

Organizational Maintenance for M915, M916, and M920 Truck Tractors and Chassis for M917, M918, and M919	TM 9-2320-273-20 (To be published)
Organizational Maintenance Repair Parts and Special Tools List for M915, M916, and M920 Truck Tractors and Chassis for M917, M918, and M919	TM 9-2320-273-20P (To be published)
Organizational Maintenance Repair Parts and Special Tools List for M919 Concrete Mobile Mixer Truck	TM 5-3895-372-20P (To be published)
Lubrication Order for M915, M916, and M920 Truck Tractors and Chassis for M917, M918, and M919	LO 9-2320-273-12
Lubrication Order for M919 Concrete Mobile Mixer Truck	LO 5-3895-372-12
Organizational Care, Maintenance and Repair of Pneumatic Tires and Inner Tubes	TM 9-2610-200-20
Description, Use, Bonding Techniques, and Properties of Adhesives	TB ORD 1032
Materiels Used for Cleaning, Preserving, Abrading, and Cementing Ordnance Materiel and Related Materiels, Including Chemicals	TM 9-247
Metal Body Repair and Related Operations	FM 43-2
Welding Theory and Application	TM 9-237
Painting Instructions for Field Use	TM 43-0139
Inspection, Care, and Maintenance of Anti-friction Bearings	TM 9-214
Use of Antifreeze Solutions and Cleaning Compounds in Engine Cooling Systems	TB 750-651
Cooling Systems: Tactical Vehicles	TM 750-254
Functional Grouping Codes	TB 750-93-1

A-3. OTHER PUBLICATIONS (Continued).

c. Cold Weather Operation and Maintenance.

Basic Cold Weather Manual	FM 31-70
Northern Operations	FM 31-71
Operation and Maintenance of Ordnance Materiel in Extreme Cold Weather (0°F to -65°F)	FM 9-207
Winterization Kits for Army Tank-Automotive Materiel	SB 9-16

d. Decontamination.

Chemical, Biological, and Radiological (CBR) Decontamination	TM 3-220
Chemical, Biological, Radiological, and Nuclear Defense	FM 21-40

e. Truck Bodies.

Organizational Maintenance Manual for M919 Concrete Mobile Mixer Truck Body	TM 5-3895-372-20

f. General.

Principles of Automotive Vehicles	TM 9-8000
Camouflage	FM 5-20
Procedures for Destruction of Tank-Automotive Equipment to Prevent Enemy Use	TM 750-244-6
Administrative Storage of Equipment	TM 740-90-1
Color and Marking of Army Materiel	TB 43-0209
Preservation, Packaging, and Packing of Military Supplies and Equipment	TM 38-230-1 & TM 38-230-2
Shipment and Limited Storage	MIL-V-62038
Storage Serviceability Standard: Tracked Vehicles, Wheeled Vehicles, and Component Parts.	SB 740-98-1

g. Warranty	TB 9-2300-295-15-17

APPENDIX B

MAINTENANCE ALLOCATION CHART

Section I INTRODUCTION

B-1. GENERAL.

a. This section provides a general explanation of all maintenance and repair functions authorized at various maintenance levels.

b. The Maintenance Allocation Chart (MAC) in section II designates overall responsibility for the performance of maintenance functions on the identified end item or component. The implementation of the maintenance functions upon the end item or component will be consistent with the assigned maintenance functions.

c. Section III lists the special tools and test equipment required for each maintenance function as referenced from section II.

d. Section IV, when applicable, contains supplemental instructions on explanatory notes for a particular maintenance function.

B-2. MAINTENANCE FUNCTIONS.

a. Inspect. To determine the serviceability of an item by comparing its physical, mechanical, and/or electrical characteristics with established standards through examination.

b. Test. To verify serviceability and detect incipient failure by measuring the mechanical or electrical characteristics of an item and comparing those characteristics with prescribed standards.

c. Service. Operations required periodically to keep an item in proper operating condition; i.e., to clean (decontaminate), to preserve, to drain, to paint, or to replenish fuel, lubricants, hydraulic fluids, or compressed air supplies.

d. Adjust. To maintain, within prescribed limits, by bringing into proper or exact position, or by setting the operating characteristics to specified parameters.

e. Aline. To adjust specified variable elements of an item to bring about optimum or desired performance.

f. Calibrate. To determine and cause corrections to be made or to be adjusted on instruments or test measuring and diagnostic equipments used in precision measurement. Consists of comparisons of two instruments, one of which is a certified standard of known accuracy, to detect and adjust any discrepancy in the accuracy of the instrument being compared.

g. Install. The act of emplacing, seating, or fixing into position an item, part, or module (component or assembly) in a manner to allow the proper functioning of an equipment or system.

h. Replace. The act of substituting a serviceable like type part, subassembly, or module (component or assembly) for an unserviceable counterpart.

B-2. MAINTENANCE FUNCTIONS (Continued).

i. Repair. The application of maintenance services[1] or other maintenance actions[2] to repair serviceability to an item by correcting specific damage, fault, malfunction, or failure in a part, subassembly, module (component or assembly), end item, or system.

j. Overhaul. That maintenance effort (services/actions) necessary to restore an item to a completely serviceable/operational condition as prescribed by maintenance standards (i.e., DMWR) in appropriate technical publications. Overhaul is normally the highest degree of maintenance performed by the Army. Overhaul does not normally return an item to like new condition.

k. Rebuild. Consists of those services/actions necessary for the restoration of unserviceable equipment to a like new condition in accordance with original manufacturing standards. Rebuild is the highest degree of material maintenance applied to Army equipment. The rebuild operation includes the act of returning to zero those age measurements (hours/miles, etc.) considered in classifying Army equipments/components.

B-3. COLUMN ENTRIES USED IN THE MAC.

a. Column 1, Group Number. Column 1 lists group numbers, the purpose of which is to identify components, assemblies, subassemblies, and modules with the next higher assembly.

b. Column 2, Component/Assembly. Column 2 contains the names of components, assemblies, subassemblies, and modules for which maintenance is authorized.

c. Column 3, Maintenance Functions. Column 3 lists the functions to be performed on the item listed in column 2. (For detailed explanation of these functions, see para B-2.)

d. Column 4, Maintenance Level. Column 4 specifies, by the listing of a "work time" figure in the appropriate sub-column(s), the lowest level of maintenance authorized to perform the function listed in column 3. This figure represents the active time required to perform the maintenance function at the indicated level of maintenance. If the number or complexity of the tasks within the listed maintenance function vary at different maintenance levels, appropriate "work time" figures will be shown for each level. The number of manhours specified by the "work time" figure represents the average time required to restore an item (assembly, subassembly, component, module, end item, or system) to a serviceable condition under typical field operating conditions. This time includes preparation time, troubleshooting time, and quality assurance/control time in addition to the time required to perform the specific tasks identified for the maintenance functions authorized in the maintenance allocation chart. The symbol designations for the various maintenance levels are as follows:

C — Operator or crew
O — Organizational maintenance
F — Direct Support maintenance
H — General Support maintenance
D — Depot maintenance

e. Column 5, Tools and Equipment. Column 5 specifies, by code, those common tool sets (not individual tools) and special tools, test, and support equipment required to perform the designated function.

f. Column 6, Remarks. This column shall contain a letter code, when applicable, in alphabetical order which shall be keyed to the remarks contained in section IV when used.

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[1] Services — Inspect, test, service, adjust, aline, calibrate, or replace.

[2] Action — Welding, grinding, riveting, straightening, facing, remachining, or resurfacing.

B-4. COLUMN ENTRIES USED IN TOOL AND TEST EQUIPMENT REQUIREMENTS.

a. Column 1, Tool or Test Equipment Reference Code. The tool and test equipment reference code correlates with a maintenance function on the identified end item or component.

b. Column 2, Maintenance Level. The lowest level of maintenance authorized to use the tool or test equipment.

c. Column 3, Nomenclature. Name or identification of the tool or test equipment.

d. Column 4, National/NATO Stock Number. The National or NATO stock number of the tool or test equipment.

e. Column 5, Tool Number. The manufacturer's part number.

B-5. EXPLANATION OF COLUMNS IN SECTION IV (WHEN APPLICABLE).

a. Reference Code. The code scheme recorded in column 6, section II.

b. Remarks. This column lists information pertinent to the maintenance function being performed as indicated on the MAC, section II.

Section II MAINTENANCE ALLOCATION CHART FOR MIXER BODY, TRUCK MOUNTED

(1)	(2)	(3)	(4)					(5)	(6)
GROUP NUMBER	COMPONENT/ASSEMBLY	MAINTENANCE FUNCTION	MAINTENANCE CATEGORY					TOOLS AND EQUIPMENT	REMARKS
			C	O	F	H	D		
06	Electrical System								
0609	Lights	Inspect	0.1						
		Replace		0.5				1-2-3-4-5	
0613	Wiring Harness	Inspect		0.2				1-2-3-4-5	
		Replace		1.0				1-2-3-4-5	
43	Hydraulic & Air System								
4300	Hydraulic System								
4301	Filter, Oil	Inspect	0.2						
		Replace		1.0				1-2-3-4-5	
	Hose/Fittings	Inspect	0.1						
		Replace		0.4				1-2-3-4-5	
4302	Pump, Oil	Replace			0.5			6-7-8-9-10-11	
		Repair			1.0			6-7-8-9-10-11	
	Tachometer Assembly	Replace		0.3				1-2-3-4-5	
	Tachometer Cable	Service		0.3				1-2-3-4-5	
		Replace		0.5				1-2-3-4-5	
	Belts, Drive (Pump)	Inspect	0.1						
		Adjust		0.2				1-2-3-4-5	
		Replace		0.5				1-2-3-4-5	
4305	Relief Valve	Test		0.5				1-2-3-4-5	
		Replace		0.5				1-2-3-4-5	
		Repair			1.0			6-7-8-9-10-11	
	Control Valve	Replace		1.5				1-2-3-4-5	
		Repair			1.0			6-7-8-9-10-11	
	Bypass Valve								
		Replace		0.5				1-2-3-4-5	
4306	Motor, Hydraulic	Replace		0.5				1-2-3-4-5	
		Repair			1.0			6-7-8-9-10-11	
4308	Reservoir, Oil	Inspect	0.1						
		Replace		2.0				1-2-3-4-5	
		Repair		1.0				1-2-3-4-5	
4315	Air System	Inspect	0.1						

Section II MAINTENANCE ALLOCATION CHART FOR MIXER BODY, TRUCK MOUNTED (Continued)

(1)	(2)	(3)	(4)					(5)	(6)
GROUP NUMBER	COMPONENT/ASSEMBLY	MAINTENANCE FUNCTION	MAINTENANCE CATEGORY					TOOLS AND EQUIPMENT	REMARKS
			C	O	F	H	D		
4316	Filter, Air	Inspect	0.1						
		Service	0.3						
		Replace		0.5				1-2-3-4-5	
	Lubricator, Air	Inspect	0.1						
		Service	0.1						
		Replace		0.5				1-2-3-4-5	
	Hose/Fittings, Air	Inspect	0.1						
		Replace		0.2				1-2-3-4-5	
4317	Valves, Air	Inspect	0.1						
		Replace		0.2				1-2-3-4-5	
		Repair		0.3				1-2-3-4-5	
	Vibrators	Replace		1.0				1-2-3-4-5	
	Timing Device	Adjust		0.3				1-2-3-4-5	
73	Concrete Equip.								
7301	Winch, Electric	Inspect	0.1						
		Service		0.2				1-2-3-4-5	
		Replace		1.5				1-2-3-4-5	
		Repair			2.0			6-7-8-9-10-11	
	Motor & Gear Box Assy	Service	0.2					1-2-3-4-5	
		Replace		1.0				1-2-3-4-5	
		Repair			2.0			6-7-8-9-10-11	
	Cable	Inspect	0.1						
		Service		0.2				1-2-3-4-5	
		Replace		1.0				1-2-3-4-5	
7304	Sand & Stone Bins	Inspect	0.2						
		Service	0.4						
		Replace			12.0			6-7-8-9-10-11	
		Repair			3.0			6-7-8-9-10-11.	
	Screens	Replace		1.0				1-2-3-4-5	
		Repair		1.0				1-2-3-4-5	
	Guides	Adjust		0.5				1-2-3-4-5	
		Replace		1.0				1-2-3-4-5	
	Guides Extensions	Adjust		0.5				1-2-3-4-5	
		Replace		1.0				1-2-3-4-5	
	U-Joints	Replace		0.5				1-2-3-4-5	
		Repair		1.0				1-2-3-4-5	

Section II MAINTENANCE ALLOCATION CHART FOR MIXER BODY, TRUCK MOUNTED (Continued)

(1)	(2)	(3)	(4)					(5)	(6)
GROUP NUMBER	COMPONENT/ASSEMBLY	MAINTENANCE FUNCTION	MAINTENANCE CATEGORY					TOOLS AND EQUIPMENT	REMARKS
			C	O	F	H	D		
7304 (Cont.)	Sand Gate Opening	Inspect	0.1						
		Adjust	0.2						
		Service	0.2						
		Replace		2.0				1-2-3-4-5	
	Stone Gate Opening	Inspect	0.1						
		Adjust	0.2						
		Service	0.2						
		Replace		2.0				1-2-3-4-5	
	Sand Front Seal	Inspect		0.1				1-2-3-4-5	
		Adjust		0.1				1-2-3-4-5	
		Replace		0.2				1-2-3-4-5	
	Stone Front Seal	Inspect		0.1				1-2-3-4-5	
		Adjust		0.1				1-2-3-4-5	
		Replace		0.2					
	Belt Wiper	Inspect	0.1						
		Adjust		0.5				1-2-3-4-5	
		Replace		0.7				1-2-3-4-5	
7305	Main Drive System	Inspect	0.2						
	U-Joints	Inspect	0.1						
		Service		0.2				1-2-3-4-5	
		Replace		5.0				1-2-3-4-5	
		Repair		1.0				1-2-3-4-5	
	Angle Drive Gear Box	Service	0.2						
		Replace		2.0				1-2-3-4-5	
		Repair			4.0			6-7-8-9-10-11	
	Belts, Drive	Inspect	0.1						
		Adjust		0.2				1-2-3-4-5	
		Replace		0.5				1-2-3-4-5	
	Gear Box, Reversing	Service		0.2				1-2-3-4-5	
		Replace		2.0				1-2-3-4-5	
		Repair			3.0			6-7-8-9-10-11	
	Main Clutch	Adjust		0.5				1-2-3-4-5	
		Service	0.3						
		Replace			2.0			6-7-8-9-10-11	
		Repair			4.0			6-7-8-9-10-11	
7305	Cement System Drive	Inspect	0.2						
		Service	0.5						
		Replace		4.0				1-2-3-4-5	
		Repair		3.0				1-2-3-4-5	

Section II MAINTENANCE ALLOCATION CHART FOR MIXER BODY, TRUCK MOUNTED (Continued)

(1)	(2)	(3)	(4)					(5)	(6)
GROUP NUMBER	COMPONENT/ASSEMBLY	MAINTENANCE FUNCTION	MAINTENANCE CATEGORY					TOOLS AND EQUIPMENT	REMARKS
			C	O	F	H	D		
7309	Cement Bin & Feeder System								
	Screen Vibrator	Inspect	0.1						
		Replace		0.5				1-2-3-4-5	
	Cement Bin Assembly	Inspect	0.2						
		Service	0.4						
		Replace			8.0			6-7-8-9-10-11	
		Repair			3.0			6-7-8-9-10-11	
	Cement Screen Assembly	Inspect	0.1						
		Replace		0.5				1-2-3-4-5	
	Cement Meter Register	Replace		0.5				1-2-3-4-5	
	Filter Cloth	Inspect	0.1						
		Replace		0.5				1-2-3-4-5	
	Cement Meter Register Cable	Service		0.2				1-2-3-4-5	
		Replace		0.5				1-2-3-4-5	
	Spring Tine	Inspect	0.1						
		Adjust		0.2				1-2-3-4-5	
		Replace		0.4				1-2-3-4-5	
	Cement Feeder	Service	0.5					12-13	
		Test	3.0					12-13	
		Replace			4.0			6-7-8-9-10-11	
		Repair			4.0			6-7-8-9-10-11	
7309	Sand & Stone Conveyor								
	Belt, Conveyor	Inspect	0.2						
		Adjust		0.5				1-2-3-4-5	
		Replace		8.0				1-2-3-4-5	
		Repair		1.5				1-2-3-4-5	
	Belt Lacer	Replace		1.5				1-2-3-4-5	
	Crossbars & Bolts	Replace		0.5				1-2-3-4-5	
	Chain Oiler	Inspect	0.1						
		Service		0.2				1-2-3-4-5	
		Adjust	0.1						
		Replace		0.5				1-2-3-4-5	
7312	Mix Auger Assembly	Inspect	0.4						
		Test	0.4						
		Service	0.5						
		Replace		2.0				1-2-3-4-5	

Section II MAINTENANCE ALLOCATION CHART FOR MIXER BODY, TRUCK MOUNTED (Continued)

(1)	(2)	(3)	(4)					(5)	(6)
GROUP NUMBER	COMPONENT/ASSEMBLY	MAINTENANCE FUNCTION	MAINTENANCE CATEGORY					TOOLS AND EQUIPMENT	REMARKS
			C	O	F	H	D		
7312 (Cont.)	Auger	Replace		2.0				1-2-3-4-5	
		Repair		4.0				1-2-3-4-5	
	Auger Wear Plates	Inspect	0.2						
		Replace		2.0				1-2-3-4-5	
	Rubber Trough	Inspect	0.1						
		Replace		2.0				1-2-3-4-5	
		Repair		1.0				1-2-3-4-5	
	Chutes	Inspect	0.1						
		Repair		0.5				1-2-3-4-5	
	Swivel Ring	Inspect	0.1						
		Service		0.5				1-2-3-4-5	
		Replace		0.6				1-2-3-4-5	
	Miniskirt	Replace		0.5				1-2-3-4-5	
7318	Dry Admix Bin	Inspect	0.1						
		Test	0.5					1-2-3-4-5	
		Replace		1.0				1-2-3-4-5	
		Repair		2.0				1-2-3-4-5	
7318	Admix Tank (Liquid)	Inspect	0.2						
		Service	0.2						
		Replace		2.0				1-2-3-4-5	
		Repair		1.0				1-2-3-4-5	
	Admix Injector	Replace		0.5				1-2-3-4-5	
	Pressure Relief Valves	Adjust	0.1						
		Replace		0.5				1-2-3-4-5	
	Flow Meters	Adjust	0.2						
		Replace		1.0				1-2-3-4-5	
		Repair		1.0				1-2-3-4-5	
	Strainers	Inspect	0.1						
		Service	0.2						
		Replace		0.5				1-2-3-4-5	
	Hose/Fittings	Inspect	0.1						
		Replace		0.5				1-2-3-4-5	
	Sight Gage (Tanks)	Replace		0.5				1-2-3-4-5	
7319	Water System	Inspect	0.3						
	Water Tank	Service	0.2						
		Replace		4.0				1-2-3-4-5	
		Repair		2.0				1-2-3-4-5	

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Section II MAINTENANCE ALLOCATION CHART FOR MIXER BODY, TRUCK MOUNTED (Continued)

(1)	(2)	(3)	(4)					(5)	(6)
GROUP NUMBER	COMPONENT/ASSEMBLY	MAINTENANCE FUNCTION	MAINTENANCE CATEGORY					TOOLS AND EQUIPMENT	REMARKS
			C	O	F	H	D		
7319 (Cont.)	Hoses/Fittings	Inspect	0.1						
		Replace		0.6				1-2-3-4-5	
	Water Pump	Replace		0.5				1-2-3-4-5	
		Repair		1.5				1-2-3-4-5	
	Flow Control Valve	Calibration	0.2						
		Adjust	0.2						
		Replace		1.0				1-2-3-4-5	
	Strainer	Inspect	0.1						
		Service		0.2				1-2-3-4-5	
		Replace		0.2				1-2-3-4-5	
	Sight Gage	Replace		0.5				1-2-3-4-5	
	Water Pump Belts	Inspect	0.1						
		Adjust		0.2				1-2-3-4-5	
		Replace		0.5				1-2-3-4-5	

Section III TOOL AND TEST EQUIPMENT REQUIREMENTS FOR MIXER BODY, TRUCK MOUNTED

(1) Ref. Code	(2) Maintenance Level	(3) Nomenclature	(4) National/NATO Stock Number	(5) Tool Number
1	O-F-H	Tool Kit, General Mechanic-Automotive	5180-00-177-7033	LIN-W33004
2	O-F-H	Shop Equip Auto Maint & Repair: Org Maint Common No. 1 Less Power	4910-00-754-0654	LIN-W32593
3	O-F-H	Shop Equip Auto Maint & Repair: Org Maint Common No. 2 Less Power	4910-00-754-0650	LIN-W32730
4	O-F-H	Shop Equip, Org Repair, Light Truck Mounted	4940-00-294-9516	LIN-T13152
5	O-F-H	Shop Equip Auto Mt & Rep Org Sup	4910-00-754-0653	LIN-W32867
6	F-H	Tool Kit, Auto Fuel & Electrical System Repair	4910-00-754-0655	LIN-W32456
7	F-H	Welding Shop Trl Mtd		LIN-Y48323
8	F-H	Tool Kit Master Mech Eq Mt & Rep	5810-00-699-5273	LIN-W45060
9	F-H	Shop Equip Contact Maint Trk Mtd	4940-00-294-9518	LIN-T10138
10	F-H	Shop Equip Gen Purp Repair Semi Trl Mt	4940-00-287-4894	LIN-T10549
11	F-H	Torque Wrench 3/4 Dr 100-500 Ft Capacity	5120-00-542-5577	LIN-Y84966

APPENDIX C

EXPENDABLE SUPPLIES AND MATERIALS LIST

Section I INTRODUCTION

C-1. SCOPE.

This appendix lists expendable supplies and materials you will need to operate and maintain the M919 Concrete Mobile Mixer Truck.

These items are authorized to you by CTA 50-970, Expendable Items (Except Medical, Class V, Repair Parts, and Heraldic Items).

C-2. EXPLANATION OF COLUMNS.

a. Column I – Item Number. This number is assigned to the entry in the listing and is referenced in the narrative instructions to identify the material (e.g., "Use cleaning compound, item 5, App. C").

b. Column 2 – Level. This column identifies the lowest level of maintenance that requires the listed item.

C – Operator/Crew

O – Organizational Maintenance

F – Direct Support Maintenance

H – General Support Maintenance

c. Column 3 – National Stock Number. This is the National stock number assigned to the item; use it to request or requisition the item.

d. Column 4 – Description. Indicates the Federal item name and, if required, a description to identify the item. The last line for each item indicates the part number followed by the Federal Supply Code for Manufacturer (FSCM) in parentheses, if applicable.

e. Column 5 – Unit of Measure (U/M). Indicates the measure used in performing the actual maintenance function. This measure is expressed by a two-character alphabetical abbreviation (e.g., ea, in, pr). If the unit of measure differs from the unit of issue, requisition the lowest unit of issue that will satisfy your requirements.

Section II EXPENDABLE SUPPLIES AND MATERIALS LIST

(1) ITEM NUMBER	(2) LEVEL	(3) NATIONAL STOCK NUMBER	(4) DESCRIPTION	(5) U/M
1	C		Grease, Automotive and Artillery GAA (MIL-G-10924C)	
		9150-00-065-0029	2¼-oz tube	oz
		9150-00-935-1017	14-oz cartridge	oz
		9150-00-190-0904	1-lb can	lb
		9150-00-190-0905	5-lb can	lb
		9150-00-190-0907	35-lb can	lb
2	C		Oil, Lubricating, Exposed Gear, CW (VV-L-751C)	
		9150-00-234-5197	5-lb can	lb
		9150-00-261-7891	35-lb pail	lb
3	O		Oil, Lubricating, Gear Subzero, GOS (MIL-L-10324)	
		9150-00-261-7904	1-qt can	qt
		9150-00-257-5440	5-gal drum	gal
		9150-00-257-5443	55-gal drum	gal
4	C		Oil, Lubricating, OE/DHO 10 (MIL-L-2104C)	
		9150-00-265-9425	1-qt can	qt
		9150-00-265-9428	5-gal drum	gal
		9150-00-265-9429	55-gal drum, 16 gage	gal
		9150-00-265-9430	55-gal drum, 18 gage	gal
5	C		Oil, Lubricating, OE/HDO 30	
		9150-00-265-9433	1-qt can	qt
		9150-00-265-9435	5-gal drum	gal
		9150-00-265-9436	55-gal drum, 16 gage	gal
		9150-00-265-9437	55-gal drum, 18 gage	gal

Section II EXPENDABLE SUPPLIES AND MATERIALS LIST (Continued)

(1) ITEM NUMBER	(2) LEVEL	(3) NATIONAL STOCK NUMBER	(4) DESCRIPTION	(5) U/M
6	C		Oil, Lubricating, OE/HDO 50 (MIL-L-2104C)	
		9150-00-265-9440	1-qt can	qt
		9150-00-265-9442	5-gal drum	gal
		9150-00-265-9441	55-gal drum, 16 gage	gal
7	O		Oil, Lubricating, OHT, (MIL-H-6083)	
8	O		Oil, Lubricating, OES, ICE, Subzero, (MIL-L-10295)	
9	O		Lubricant, Gear, Universal, (MIL-L-2106)	
10	O		Oil, Hydraulic (HO) (MIL-H-46001B)	
11	O		Lubricant, Gear, Universal (GO) (MIL-L-2105C) 140	
12	C		Oil, Fuel, Diesel DF-1 Winter (VV-F-800)	
		9140-00-286-5286	Bulk	gal
		9140-00-286-5287	5-gal can	gal
		9140-00-286-5288	55-gal drum, 16 gage	gal
		9140-00-286-5289	55-gal drum, 18 gage	gal
13	C		Oil, Fuel, Diesel DF-2 Regular (VV-F-800)	
		9140-00-286-5294	Bulk	gal
		9140-00-286-5295	5-gal can	gal
		9140-00-286-5296	55-gal drum, 16 gage	gal
		9140-00-286-5297	55-gal drum, 18 gage	gal

Section II EXPENDABLE SUPPLIES AND MATERIALS LIST (Continued)

(1) ITEM NUMBER	(2) LEVEL	(3) NATIONAL STOCK NUMBER	(4) DESCRIPTION	(5) U/M
			MISCELLANEOUS	
14	C		Solvent, Dry Cleaning, SD-2 (P-D-680)	
		6850-00-664-5685	1-qt can	qt
		6850-00-281-1985	1-gal can	gal
15	C	6850-00-243-1992	Antifreeze, Permanent, Glycol, Inhibited (MIL-A-46153)	1 gal
16	O		Liquid Teflon	
17	O		Soap Solution	
18	O		Lubriplate	
19	O		Alcohol (for evaporator)	
20	O		Penetrating Oil	
21	O		No. 320 Emery Paper	
22	O		Lube Oil, Ice, Arctic, OEA (MIL-L-46167)	

# APPENDIX D

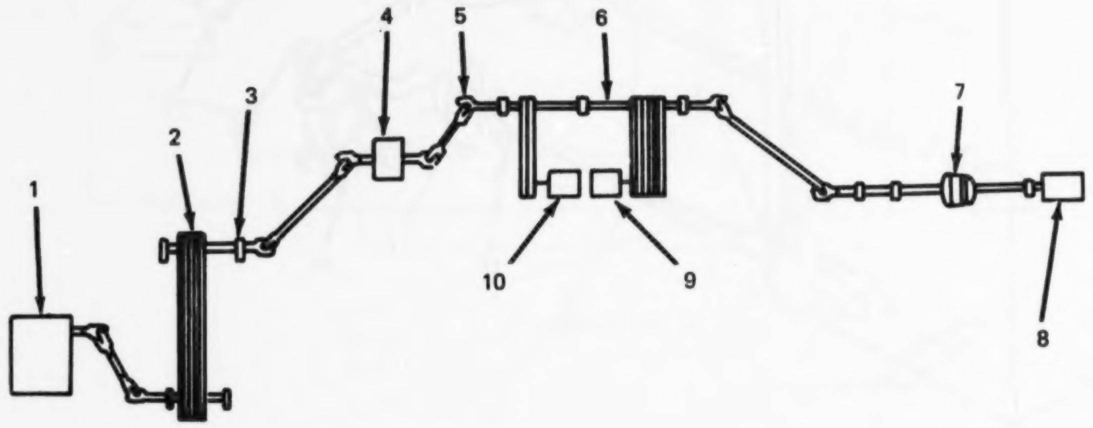
SCHEMATIC DIAGRAMS

Section I INTRODUCTION

D-1. SCOPE.

This appendix provides you with main drive, water, air, and electrical system schematic diagrams.

D-2. SCHEMATIC DIAGRAMS.



LEGEND:

1. POWER TAKEOFF (PTO)
2. PTO V-BELTS (5)
3. BEARING BLOCKS (10)
4. REVERSING GEAR BOX
5. UNIVERSAL JOINTS (8)
6. MAIN DRIVE SHAFT
7. MAIN CLUTCH
8. ANGLE DRIVE GEAR BOX
9. HYDRAULIC OIL PUMP
10. WATER PUMP

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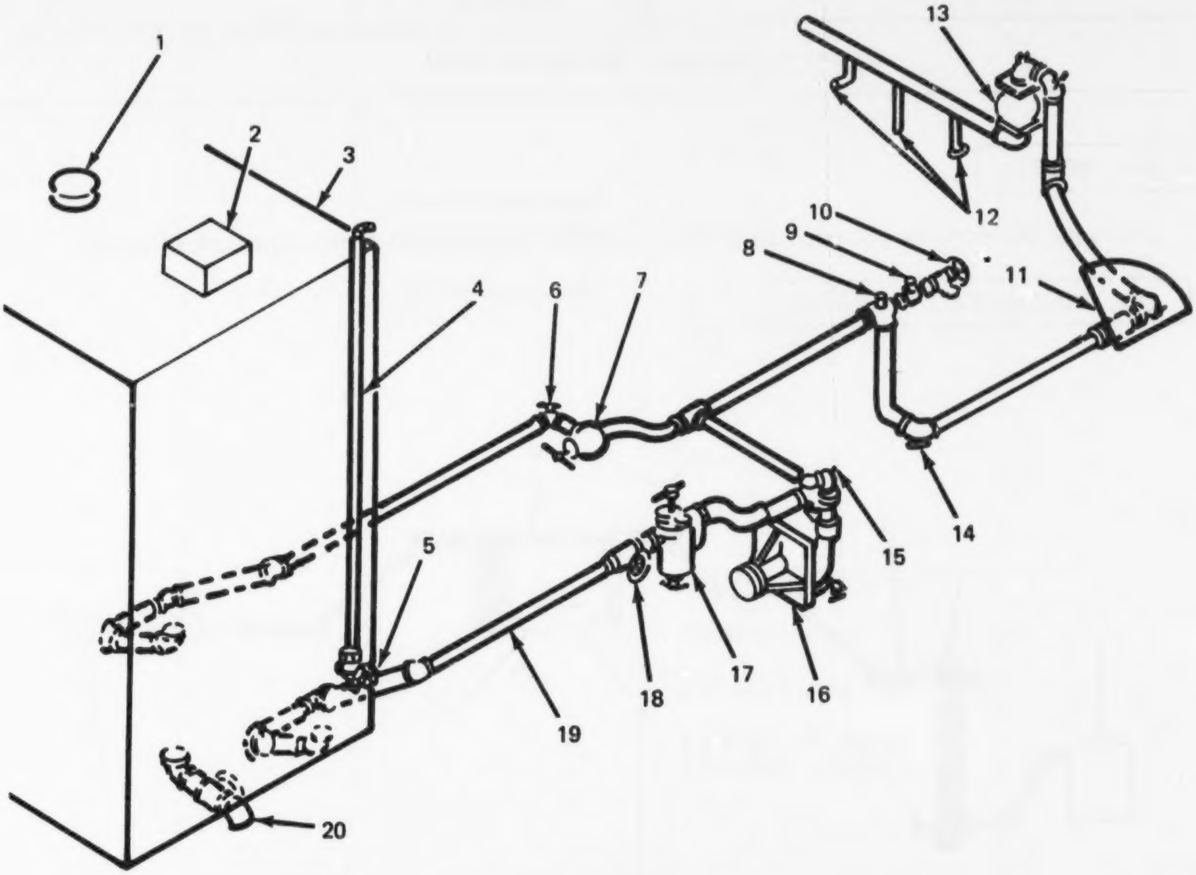
Figure D-1. Main Drive System.

D-2. SCHEMATIC DIAGRAMS (Continued).



LEGEND:

1. FILLER CAPS
2. INLET WATER STRAINER
3. WATER TANK
4. SIGHT GAGE
5. GAGE VALVE
6. WATER RETURN LINE
7. PRESSURE RELIEF VALVE
8. AIR FITTING
9. VENT
10. HOSE VALVE
11. WATER CONTROL VALVE
12. SPRAY NOZZLES
13. QUICK-OPENING VALVE
14. DRAIN COCKS
15. AIR FITTING
16. WATER PUMP
17. SCREEN STRAINER
18. SHUTOFF VALVE
19. WATER SUPPLY LINE
20. DRAIN VALVE

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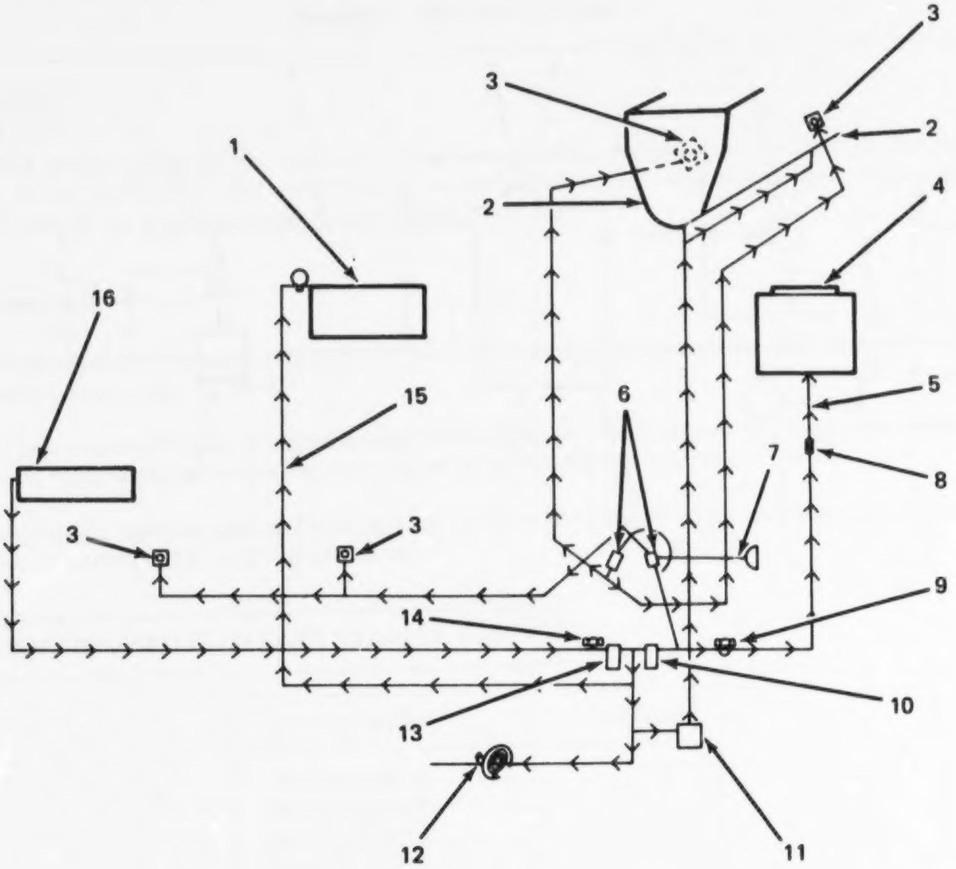
Figure D-2. Water System.

D-2. SCHEMATIC DIAGRAMS (Continued).



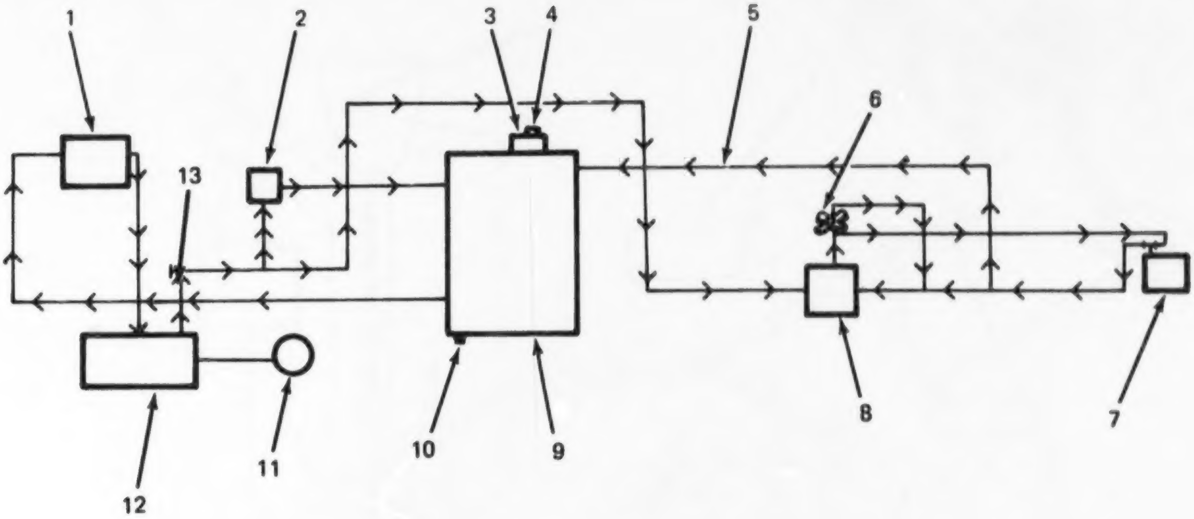
LEGEND:

1. LIQUID ADMIX	9. HOPPER AIR GATE VALVE
2. AIR PAD (2)	10. AIR LUBRICATOR
3. VIBRATOR (4)	11. FLUFFER CONTROL VALVE
4. QUICK LOADING HOPPER	12. AUXILIARY AIR HOSE
5. CEMENT SCREEN VIBRATOR AIR LINE	13. AIR FILTER
6. VIBRATOR AIR VALVE (2)	14. GATE VALVE
7. MANUAL VIBRATOR CONTROL	15. LIQUID ADMIX AIR SUPPLY LINE
8. QUICK DISCONNECT	16. MAIN AIR SUPPLY

TA 076465

Figure D-3. Air System.

D-2. SCHEMATIC DIAGRAMS (Continued).



LEGEND:

1. OIL FILTER
2. RELIEF VALVE
3. FILLER CAP
4. BREATHER
5. RETURN LINE
6. BYPASS VALVE
7. HYDRAULIC MOTOR
8. CONTROL VALVE
9. HYDRAULIC OIL RESERVOIR
10. DRAIN PLUG
11. TACHOMETER
12. HYDRAULIC PUMP
13. GAGE POINT

TA 076466

Figure D-4. Hydraulic System.

APPENDIX E

ILLUSTRATED LIST OF MANUFACTURED ITEMS

Section I INTRODUCTION

E-1. GENERAL.

This appendix contains all the information you need to assemble, manufacture or fabricate the items that appear in TM 5-3895-372-20P which are source coded MO or MF; that is, the items authorized to be manufactured by Organizational maintenance personnel.

E-2. CONTENTS.

a. This appendix includes complete instructions for making items authorized to be manufactured or fabricated at organizational level.

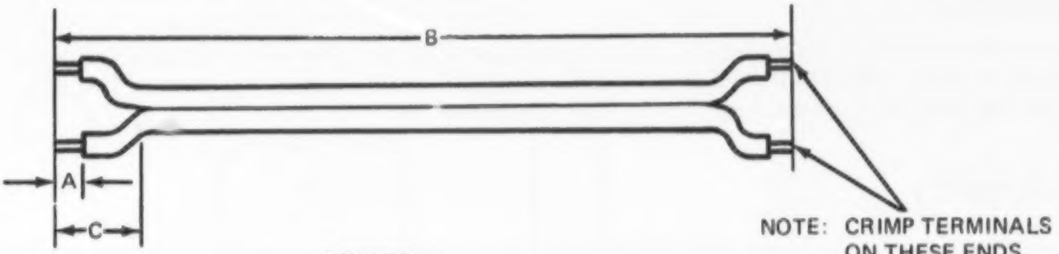
b. A part number index in alphanumeric order provided for cross-referencing the part number of the item to be manufactured to the figure number which covers fabrication criteria.

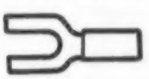
c. All bulk materials needed for manufacture of an item are listed by part number or specification number in a tabular list on the illustration.

E-3. MANUFACTURED ITEM PART NUMBER INDEX.

PART NUMBER	FIG. NO.
MA207-22910	E-6
MA207-22911	E-6
MA207-22912	E-6
MA207-22978	E-2
MA366-21006	E-5
MA366-21007	E-5
MA366-21008	E-1
MA366-21010	E-3
MA366-21012	E-4
MA366-21013	E-4
MA366-21014	E-4
MA366-21015	E-4
MA366-21016	E-1
MA366-21017	E-5

Section II ILLUSTRATED MANUFACTURING INSTRUCTIONS.





WIRE NUMBER	MANUFACTURE FROM	DIMENSION A Inches	DIMENSION A (mm)	DIMENSION B Inches	DIMENSION B (mm)	DIMENSION C Inches	DIMENSION C (mm)	TERMINAL P/N	TERMINAL FSCM
MA366-21008	MA366-21011	.25	6.350	108	2743.2	1.0	254	N/A	
MA366-21016	MA366-21011	.5	12.700	48	1219.2	.5	12.700	*MS20659-104	

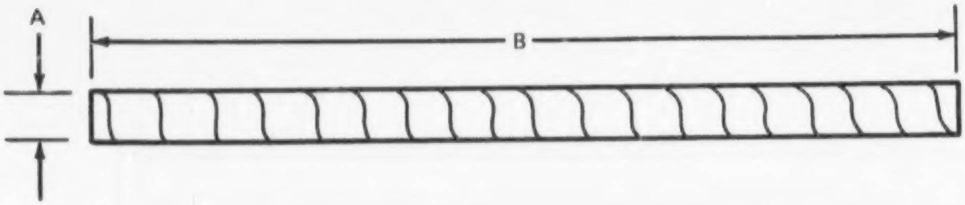
*Quantity of two required.

NOTES:

1. Cut wire squarely to specified length (Dimension B).
2. Separate wires on both ends to specified length (Dimension C).
3. Strip wire covering back on both ends of specified length (Dimension A).
4. Twist wire ends to keep from fraying.
5. If applicable, crimp two terminals on wire ends with a suitable crimping tool.

TA 076467

Figure E-1. Wire.



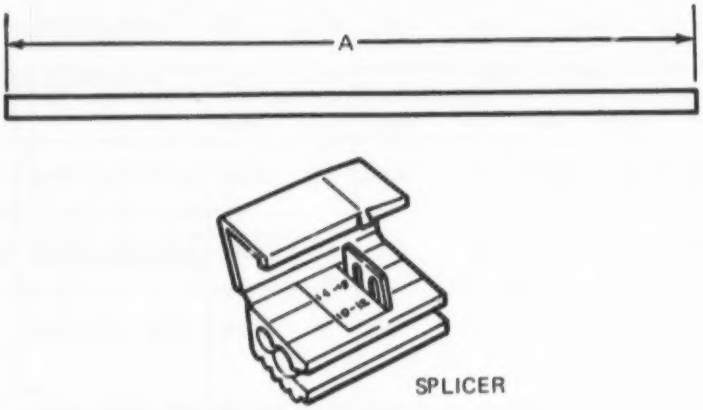
ROPE NUMBER	MANUFACTURE FROM NSN	DIMENSION A Inches	(mm)	DIMENSION B Feet	Meters
MA207-22978	4020-00-928-3438	.250	6.35	75	22.88

NOTES:

1. Cut rope squarely to specified length.
2. If desired, ends may be taped or tied off to keep from fraying.

TA 076468

Figure E-2. Rope.



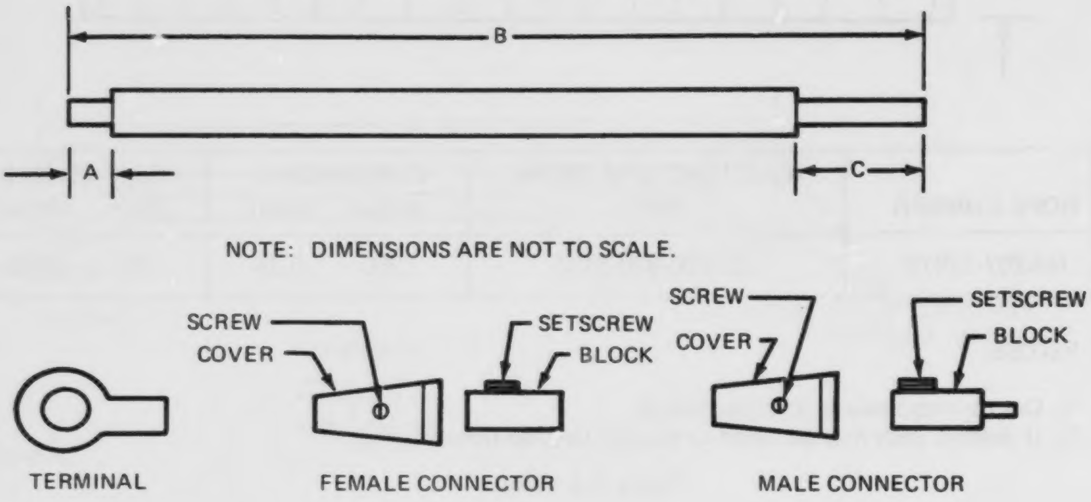
WIRE NUMBER	MANUFACTURE FROM NSN	DIMENSION A Inches	(mm)	SPLICER P/N	FSCM	QUANTITY PER
MA366-21010	6145-00-542-6834	84"	2133.6	558	20999	AS REQUIRED

NOTES:

1. Cut wire squarely to desired length (Dimension A).
2. Include quantity of splicers required with wire. Do not crimp or attach splicer to wire. This will be done at installation.

TA 076469

Figure E-3. Wire Splicer.


B
A
C
NOTE: DIMENSIONS ARE NOT TO SCALE.
SCREW
COVER
SETSCREW
BLOCK
SCREW
COVER
SETSCREW
BLOCK
TERMINAL
FEMALE CONNECTOR
MALE CONNECTOR

CABLE ASSY NUMBER	MFR CABLE FROM NSN	DIMENSION A		DIMENSION B		DIMENSION C		TERMINAL	FSCM	CONNECTOR FEMALE	CONNECTOR MALE
		Inches	(mm)	Feet	Meters	Inches	(mm)				
MA366-21012	6145-00-538-8219	.5	12.700	1'	0.305	.5	12.700	NP5021019	50663*	N/A	N/A
MA366-21013	6145-00-538-8219	.5	12.700	19'	5.80	.75	19.050	NP5021019	50663	MA68-21001	N/A
MA366-21014	6145-00-538-8219	.5	12.700	1'	0.305	.75	19.050	NP5021019	50663	N/A	MA68-21002
MA366-21015	6145-00-538-8219	.5	12.700	1'	0.305	.5	12.700	NP5021019	50663*	N/A	N/A

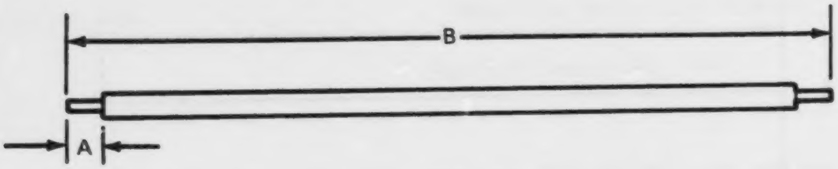
*Quantity of two (2) required.

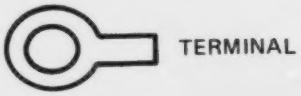
NOTES:

1. Cut wire to desired length (Dimension B).
2. Strip wire cover back on each end to desired lengths (Dimension A and B).
3. Select the proper terminal(s) or connector(s) for the cable assembly in the table above.
4. To attach terminal, crimp on wire end using a suitable crimping tool.
5. To attach female or male connectors, loosen screw in cover and remove block from cover.
6. Slide cover over cable end.
7. Loosen setscrew in block and insert cable into block. Tighten setscrew.
8. Slide cover over block and tighten screw.

TA 076470

Figure E-4. Cable Assembly.





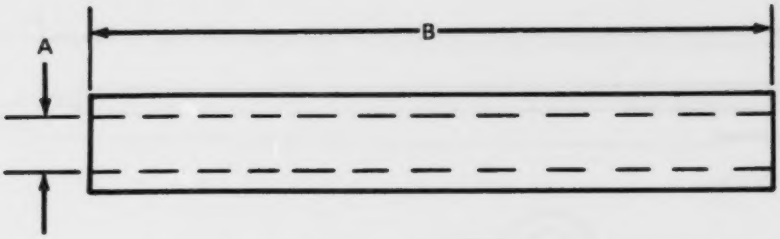
WIRE NUMBER	MANUFACTURE FROM NSN	DIMENSION A		DIMENSION B		TERMINAL	TERMINAL	
		Inches	(mm)	Inches	(mm)	Qty	P/N	FSCM
MA366-21017	6145-00-542-6834	.25	6.350	9	228.6	1	MS20659-104	96906
MA366-21006	6145-00-542-6834	.25	6.350	6	152.4	N/A	N/A	
MA366-21007	6145-00-542-6834	.25	6.350	3	76.2	N/A	N/A	

NOTES:

1. Cut wire to desired length (Dimension B).
2. Strip wire covering off of wire (Dimension A).
3. Twist wire ends to keep from fraying.
4. If applicable, crimp terminal on wire end using a suitable crimping tool.

TA 076471

Figure E-5. Single Strand Wire.



LOOM NUMBER	MANUFACTURE FROM P/N	FSCM	DIMENSION A INCHES	(MM)	DIMENSION B FEET	METERS
MA207-22910	MA207-22919	34623	.375	9.525	19	5.80
MA207-22911	MA207-22919	34623	.375	9.525	4	1.22
MA207-22912	MA207-22919	34623	.375	9.525	6	1.83

NOTES:

1. Cut loom squarely to specified length.

TA 076472

Figure E-6. Loom.

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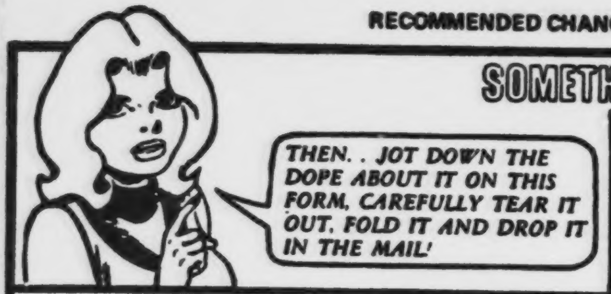
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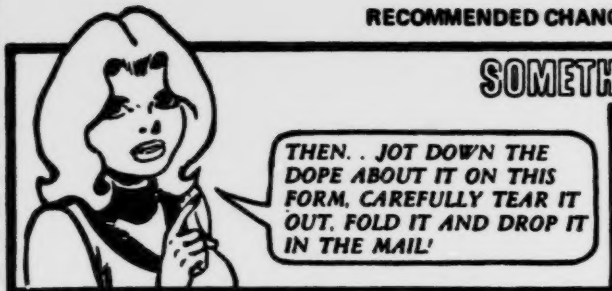
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THE METRIC SYSTEM AND EQUIVALENTS

LINEAR MEASURE

1 Centimeter = 10 Millimeters = 0.01 Meters = 0.3937 Inches
1 Meter = 100 Centimeters = 1000 Millimeters = 39.37 Inches
1 Kilometer = 1000 Meters = 0.621 Miles

WEIGHTS

1 Gram = 0.001 Kilograms = 1000 Milligrams = 0.035 Ounces
1 Kilogram = 1000 Grams = 2.2 Lb
1 Metric Ton = 1000 Kilograms = 1 Megagram = 1.1 Short Tons

LIQUID MEASURE

1 Milliliter = 0.001 Liters = 0.0338 Fluid Ounces
1 Liter = 1000 Milliliters = 33.82 Fluid Ounces

SQUARE MEASURE

1 Sq Centimeter = 100 Sq Millimeters = 0.155 Sq Inches
1 Sq Meter = 10,000 Sq Centimeters = 10.76 Sq Feet
1 Sq Kilometer = 1,000,000 Sq Meters = 0.386 Sq Miles

CUBIC MEASURE

1 Cu Centimeter = 1000 Cu Millimeters = 0.06 Cu Inches
1 Cu Meter = 1,000,000 Cu Centimeters = 35.31 Cu Feet

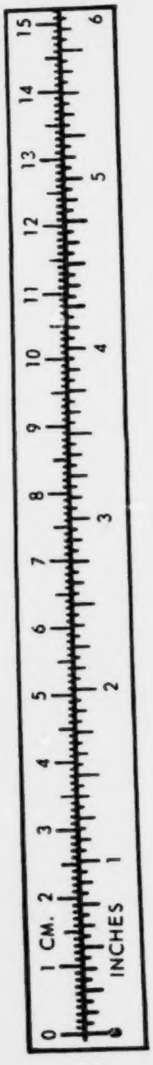
TEMPERATURE

$5/9(^0F - 32) = ^0C$
212^0 Fahrenheit is equivalent to 100^0 Celsius
90^0 Fahrenheit is equivalent to 32.2^0 Celsius
32^0 Fahrenheit is equivalent to 0^0 Celsius
$9/5 C^0 + 32 = F^0$

APPROXIMATE CONVERSION FACTORS

TO CHANGE	TO	MULTIPLY BY
Inches	Centimeters	2.540
Feet	Meters	0.305
Yards	Meters	0.914
Miles	Kilometers	1.609
Square Inches	Square Centimeters	6.451
Square Feet	Square Meters	0.093
Square Yards	Square Meters	0.836
Square Miles	Square Kilometers	2.590
Acres	Square Hectometers	0.405
Cubic Feet	Cubic Meters	0.028
Cubic Yards	Cubic Meters	0.765
Fluid Ounces	Milliliters	29.573
Pints	Liters	0.473
Quarts	Liters	0.946
Gallons	Liters	3.785
Ounces	Grams	28.349
Pounds	Kilograms	0.454
Short Tons	Metric Tons	0.907
Pound-Feet	Newton-Meters	1.356
Pounds per Square Inch	Kilopascals	6.895
Miles per Gallon	Kilometers per Liter	0.425
Miles per Hour	Kilometers per Hour	1.609

TO CHANGE	TO	MULTIPLY BY
Centimeters	Inches	0.394
Meters	Feet	3.280
Meters	Yards	1.094
Kilometers	Miles	0.621
Square Centimeters	Square Inches	0.155
Square Meters	Square Feet	10.764
Square Meters	Square Yards	1.196
Square Kilometers	Square Miles	0.386
Square Hectometers	Acres	2.471
Cubic Meters	Cubic Feet	35.315
Cubic Meters	Cubic Yards	1.308
Milliliters	Fluid Ounces	0.034
Liters	Pints	2.113
Liters	Quarts	1.057
Liters	Gallons	0.264
Grams	Ounces	0.035
Kilograms	Pounds	2.205
Metric Tons	Short Tons	1.102
Newton-Meters	Pound-Feet	0.738
Kilopascals	Pounds per Square Inch	0.145
Kilometers per Liter	Miles per Gallon	2.354
Kilometers per Hour	Miles per Hour	0.621



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